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NOTES ON TUBERCULOSIS SANATORIUM PLANNING.[1]

As a first step in the preparation of standard plans for the several types of buildings necessary for the care and treatment of tuberculous patients, the following general requirements should be borne in mind. It is understood that the needs of ex-service men as patients are especially to be considered.

1. Location and Site.

Principal factors.—(*a*) Accessibility; transportation facilities and distance from a center of population. (It is exceedingly important to remember that sites remote from centers of population are inconvenient and costly in the matter of obtaining supplies; also for the transportation of patients to and from the institution on admission and discharge, and, occasionally, for short leaves of absence, or for the visits of relatives and friends. Further, and this is of prime importance, it is most difficult to attract and retain adequate help, professional and general, in isolated places.)

(*b*) The topographical features.

(*c*) The exposure (orientation) and shelter from prevailing disagreeable winds.

(*d*) The climatic conditions.

(*e*) Water and power supply.

(*f*) Soil and drainage facilities.

The possibility of obtaining water and electricity from some municipality or public service corporation, and of connecting the institution with some public sewerage system, are also very important factors, both in first cost and the trouble and expense of maintenance, and should be carefully considered in the selection of a site.

[1] These notes were prepared by Mr. T. B. Kidner, institutional secretary, National Tuberculosis Association, in order to formulate the results of recent experiences and of a study of the subject by officers of the Public Health Service, as a basis for the design of sanatoria for the care of ex-service men. The accompanying plates present plans for the more essential buildings and a group plan on an assumed site, which are believed to fulfill the requirements set out in the text. The group plan is subject to rearrangement to meet local conditions of sites, and the necessity of providing quarters for a smaller or larger proportion of personnel.

Credit is gladly given to Derby & Robinson, architects, Boston, Mass., for the development of the semi-ambulant type of building for cold climates. The remaining plans were developed in the engineering section of the Hospital Division, United States Public Health Service.

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There must be sufficient level space for the buildings; also enough to provide room for the patients to exercise.

Because of the tedious nature of the treatment of tuberculosis, it is of importance that any natural beauties of a site be conserved in laying out the building scheme, as pleasant surroundings are undoubtedly a factor in the treatment of tuberculous patients.

With the several factors of proper water supply, proper drainage, and nearness to a center of population, all present, the ideal site is one on ground slightly above the level of the surrounding country, and rising behind the building area to the north, the northeast, or the northwest, according to the direction of the prevailing disagreeable winds. In a flat country, protection from such winds must be afforded by a belt of trees, preferably, of course, evergreens.

Buildings in which patients are housed should be orientated to face a little to the east of south, except in subtropical localities, where it is better if the patients' quarters are orientated to face the east.

2. Functions for Which Buildings Must Be Provided.

(*a*) Administration: Medical.
(*b*) Administration: General.
(*c*) Patients' quarters: For acute, semiambulant, and ambulant cases, respectively.
(*d*) Service buildings: Dining room, kitchen and bakery, store rooms.
(*e*) Ice plant and refrigeration.
(*f*) Laundry and sterilizing plant.
(*g*) Heating plant.
(*h*) Garage, repair shops, etc.
(*i*) Residences for staff and employees.
(*j*) Assembly hall and recreation.
(*k*) Occupational and prevocational therapy.

In addition to the foregoing, if the sanatorium is isolated from public facilities, there must be included:

(*l*) Lighting plant.
(*m*) Water supply.
(*n*) Sewage disposal system.

Except in large institutions, it is not necessary to provide separate buildings for each of the things enumerated above; in fact, in a small sanatorium they are often provided for in two or three buildings.

In the succeeding sections there is set forth in some detail, for the guidance of the construction section, a description of the requirements of the various units comprised in the list above. While each unit will be described separately, convenient combinations, varying in number inversely as the capacity of the institution, will be suggested.

3. General Lay-Out.

If the site permit, it is convenient to have the main hospital building centrally located, but toward the front of the site; the service buildings should be at its rear, and the quarters for ambulant and semiambulant patients should be grouped about the main buildings. (See sec. 6.) If patients of both sexes are to be treated in the institution, it is convenient to have the men's quarters on one side and the women's quarters on the other, both in the hospital building itself and in the buildings for patients in the semi-ambulant and ambulant stage. If Negroes are to be treated, similar provision for dividing the groups is necessary.

In sanatoria of all sizes, provision should be made for the progression of a patient from one room, ward, or building to another, as his condition improves. Thus, an acutely ill patient would be housed in the hospital or "infirmary" unit. When he recovers from the acute stage, he becomes what is termed "semiambulant" and is transferred to simpler quarters. Later, as he progresses toward recovery, he is able to take more exercise and becomes an "ambulant" patient, being then housed in still simpler quarters.

This procedure has been found in practice to be very effective in the treatment of tuberculosis patients in an institution. In planning a tuberculosis hospital, it should be borne in mind, therefore, that for psychological reasons, as well as practical considerations, it is most desirable so to arrange the buildings that the patient passes from one building to another as he progresses toward recovery; also, that the accommodation be progressively simpler in type as the patient nears the period of discharge.

There are two important considerations in the location of the heating plant and power house, viz:

(*a*) The facility with which heavy freight (coal, etc.) can be delivered; and

(*b*) The direction of the prevailing winds, so that the smoke from the chimney shall not be carried over the institution.

Storehouses must also be located with reference to the delivery of heavy freight and, of course, to the facility of distribution to the various units.

Residences for staff, nurses, and help should be removed from the hospital buildings proper and should be, preferably, between them and the entrance to the grounds.

Buildings for recreational, occupational, and vocational therapy, and social features should be located in a central position, preferably near the quarters for ambulant patients.

The service building and dining halls should be in a central location, not only with relation to the ambulant patients and others who will

use the dining room, but also for the convenient distribution of food to bed-patient units. In cold climates, inclosed passage ways should be provided between the hospital and the service buildings. The quarters for semiambulant patients should also be connected in a similar manner with the main dining hall.

4. Medical Administration.

The medical administration quarters should include:

(*a*) An office for the chief physician.

(*b*) An office, or offices, for the assistant physicians.

(*c*) A general office with vault for medical records, and waiting-room space.

(*d*) A room, or rooms, for the examination of patients.

(*e*) An eye, ear, nose, and throat treatment room with simple surgeon's sink.

(*f*) Minor surgical dressing room with simple surgeon's sink.

(*g*) Dental rooms: Clinic (10 feet by 12 feet per chair) and laboratory; lavatory bowl in clinic; and sink in laboratory.

(*h*) X-ray department: To include machine room, fluoroscopic examination room, dark room, and plate storage room.

(*i*) Pharmacy (bulk drug storage in basement).

(*j*) Patients' waiting room with toilet.

NOTE: (*d*), (*e*), (*f*), (*g*), (*h*), (*i*), and (*j*) form what is, in effect, an out-patient clinic or dispensary and should be grouped so that access to them is direct for ambulant patients.

(*k*) Toilets for staff (both sexes).

(*l*) Laboratory: (*a*) Routine; (*b*) Research.

(*m*) Medical library.

(*n*) Lecture room for training of nurses and others.

NOTE: In large institutions, (*m*) and (*n*) are often grouped in one unit, either in one wing or floor of the medical administration building or in a separate building.

(*o*) Operating room and its auxiliary rooms.

If a tuberculosis sanatorium is located near a general hospital, it is not usual to equip a regular operating room, but merely to provide a room for minor surgical procedures. In places not close to a general hospital, a proper operating suite, equipped for major operations, is necessary.

Where the medical administration quarters are not an integral part of the hospital unit, the operating suite should be located in the hospital.

An operating room should be not less than 15 feet by 15 feet in size. It must be well lighted from the north, the window to extend to the ceiling. Top lighting is sometimes added, but care must be taken to arrange so that no direct sunlight can enter through it at any time of the year.

The best floor for an operating room is smooth vitreous tile, of dark tone, laid with close joints. Formerly, operating rooms were all white, but the best modern practice is not only to make the floor dark, but also to finish the walls dark to a height of 6 feet, the surface material to be tile of a dark green or cool gray tone. The wall above and the ceiling should be of smooth, hard plaster, painted white.

Either in the operating room itself or in a communicating room without a door between, or in an alcove, there should be installed:

(*a*) Two surgeon's scrub-up sinks;
(*b*) One flushing hopper;
(*c*) One instrument sterilizer, with hood and vent; and
(*d*) One standard operating table.

Adjoining, or near, the operating room should be a sterilizing room, equipped as follows:

(*a*) One autoclave;
(*b*) One water sterilizer, hot and cold;
(*c*) One utensil sterilizer; and
(*d*) One instrument sink.

The floor should be of tile, the walls and ceiling painted.

A surgeon's dressing room, located not far from the operating room, is necessary. Equipment: W. C., lavatory, and wardrobe lockers.

If possible, an anesthetizing room should be provided, so that a patient is spared the shock of seeing the operating room.

A preparation room is necessary for the use of the nurses in preparing dressings for sterilization, and performing other duties in connection with the operating department. There should be a nurse's toilet adjoining. The equipment of the room should include:

(*a*) Work table;
(*b*) Open shelves for odd appliances; and
(*c*) Glazed cases for sterile and unsterile goods.

5. General Administration.

In United States Public Health Service sanatoria, the medical and general administration quarters should be in the same building. The administration unit should include:

(*a*) Office for superintendent (medical officer in charge);
(*b*) Office for M. O. C.'s secretary, adjoining (*a*);
(*c*) Office for business manager;
(*d*) General office, adjoining (*c*);
(*e*) Office for head nurse;
(*f*) Conference room;
(*g*) General waiting room; with toilets (both sexes); and
(*h*) Vault for documents.

6. Patients' Quarters.

For purpose of hospitalization, it is usual to divide tuberculous patients into three categories:

(*a*) Those acutely ill—known as "*hospital*" patients.

(*b*) Those who have recovered somewhat and are able to walk to the congregate dining hall for meals, and to the bath room and toilet—known as "*semiambulant*" patients.

(*c*) Those who have progressed still further toward recovery and are "on exercise"—known as "*ambulant*" patients.

It is not possible to state with exactitude the proportion of patients in each category, as it varies in different institutions and from time to time in the same institution.

For the hospitalization of tuberculous ex-service men, it seems advisable that provision for their housing should be made in the following proportions of the total patient capacity:

	Per cent.
Hospital patients, not less than	40
Semiambulant patients	35
Ambulant patients, not more than	25

Types of buildings.—Detailed descriptions of the several types of buildings necessary for these groups will be given later, but it is convenient at this point to set down some general remarks upon the subject.

In good practice to-day, the accommodation provided for hospital patients in a sanatorium differs but little from that of a modern general hospital; the chief difference being that for at least 50 per cent of the patients, provision should be made for open-air sleeping on porches, verandas, etc.

The accommodation for semiambulant patients should be of such a type that in case at any time the number of patients needing hospital treatment exceeds the capacity of the hospital, the excess can be treated in the semiambulant patients' quarters.

For ambulant patients, comfortable living and sleeping quarters of simple type should be provided, and these should include outdoor sleeping facilities for every patient; the buildings, whether of the "cottage" type, with a few patients in each, or of the "congregate" type, in which larger groups of patients are housed in one building, should be arranged to give some privacy to the inmates and not on the open ward principle.

7. Hospital Building.

In good sanatorium practice it is usual to keep all newly admitted patients under observation in bed for a week or two, for diagnosis and classification. Such patients are conveniently housed in the hospital building in a reception division, wing, or ward. This

should be located near the point at which incoming patients would most conveniently be received, and comprise approximately 20 per cent of the hospital unit accommodation.

Single rooms are necessary for patients critically ill; also for terminal cases. When a patient improves somewhat he is usually removed to a two-bed room. Later, he is assigned to a four-bed, or six-bed open ward. The following approximate relative proportions for the accommodation in a hospital unit are suggested:

	Per cent.
In a single room	15
In two-bed rooms	35
In four-bed wards	25
In six-bed to ten-bed wards	25
Hospital unit capacity	100

All corridors should be not less than 8 feet wide. All doorways to patients' rooms and wards should be wide enough (3 feet 6 inches) to allow a standard bed to pass through freely. On no account should threshold strips be installed in doorways.

SERVICE ROOMS.

In a hospital unit, various service rooms are required, and are considered in the succeeding paragraphs.

(*a*) *Nurses' duty room.*—On each floor there should be a nurses' office, usually termed a "nurses' duty room." Adjoining it, and preferably entered from the room, should be a toilet and lavatory. The room should be large enough to hold a standard desk, a wall cabinet for patients' charts, a small drug cabinet, a couch, and two chairs. Outside light is necessary.

The American Sanatorium Association Standards of Hospital Administration call for one nurse to each ten hospital patients. Therefore, in addition to the duty room, simple "nurses' stations" should be provided at convenient points on each floor; each for one or two nurses, according to the capacity and plan of the building. An electric "nurses' call" system should be installed in the patients' rooms and wards, with indicator in the nurses' duty room.

(*b*) *Utility room.*—For approximately each 20 patients confined to bed there should be provided one utility room, so located that the minimum of travel is involved for the nurse when carrying utensils from a bedside to the room. Outside light and air are necessary.

The equipment should include:

1. A bedpan sterilizer of inclosed type, with not less than 35 pounds of steam laid on.

2. A small sterilizer for sputum cup containers. (Steam, as above.)

3. A rack for utensils.
4. A lavatory bowl with hot and cold water.
5. A slop sink.

Provision must also be made in this room, or near it, for the disposal of used paper sputum cups, paper napkins, etc., either by providing a local built-in incinerator, or a collecting receptacle. (See note on "sputum technique" under section 9.)

(*c*) *Diet kitchen.*—For approximately each 30 patients confined to bed there should be provided one diet kitchen, so located that trays can be carried to bed patients with a minimum of travel and time. Outside light and air are necessary.

The equipment should include:

1. An ice box, or, preferably, a refrigerator operated from a central refrigerating plant.
2. A hot-plate worktable.
3. A small range, preferably gas or electric.
4. A kitchen sink and draining board.
5. Racks for trays.
6. Shelves for crockery, with drawers for silver and linen.
7. Small sterilizing dishwasher.

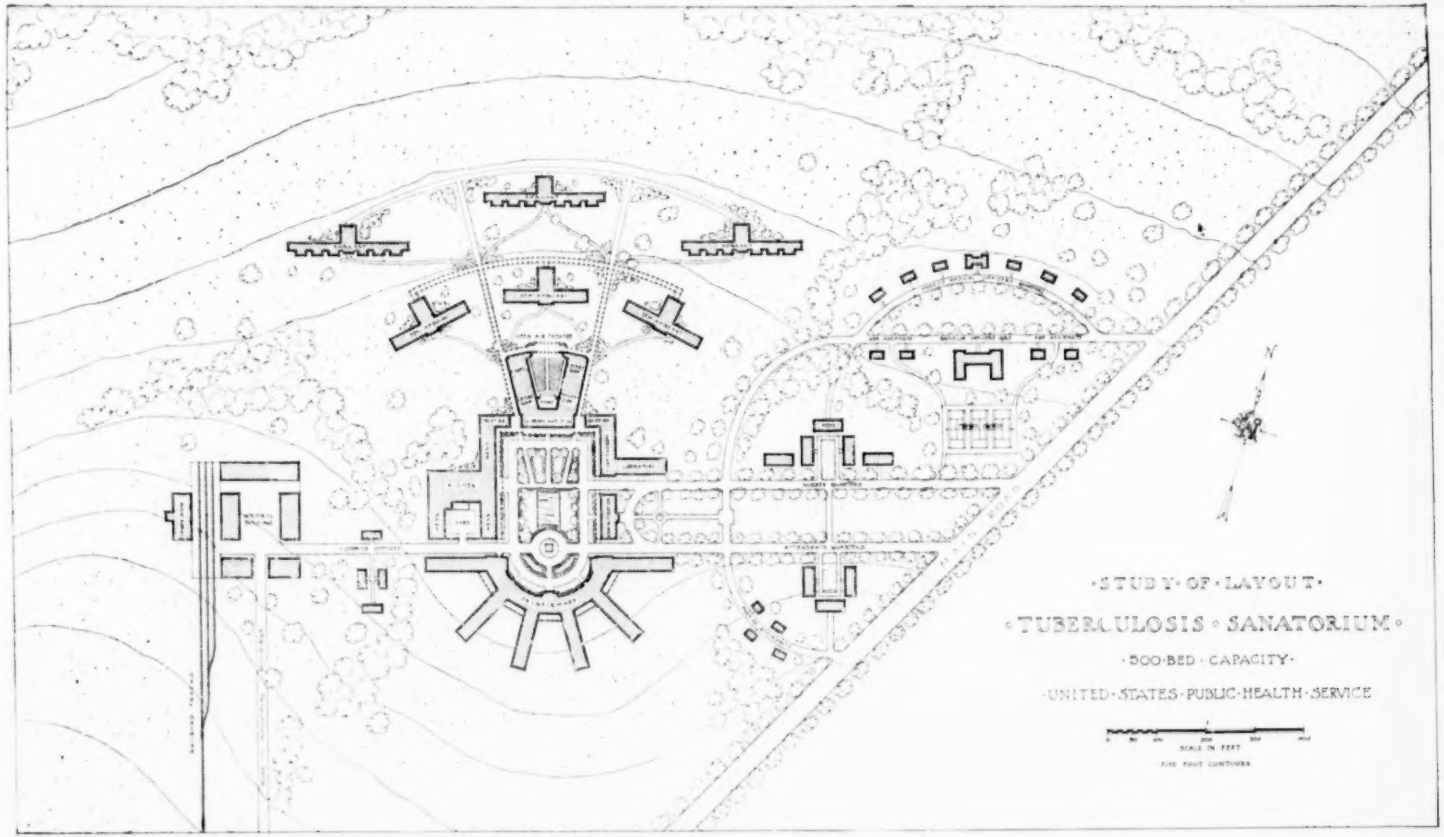
Food is usually brought in heated trucks from the main sanatorium kitchen, direct to individual diet kitchens; but sometimes it is conveyed by dumb-waiter from the lowest floor to the diet kitchens on floors above. In general, a dumb-waiter should be included in all diet kitchens above the lowest floor, unless heated food trucks are to be used.

(*d*) *Dining rooms.*—It has been found helpful to allow hospital patients who are able to leave their beds to proceed (in dressing gowns) to small, local dining rooms for one or more meals daily. Patients appreciate the break in the monotony thus afforded, the effect on their progress is good, and the labor of tray feeding is reduced.

It is well, therefore, to provide, in a room adjoining the diet kitchen nearest to the four-bed and six-bed wards, small dining rooms to accomodate from 10 to 20 patients. (In a large institution several such rooms, appropriately located, may be necessary.)

No fixed equipment is required; but it is convenient to provide a serving hatch in the partition between the diet kitchen and the dining room. Outdoor light and air are necessary.

(*e*) *Linen closets.*—For approximately each 35 patients a linen room or closet, to hold not more than two days' supply, should be provided. The equipment should consist of shelves not less than 18 inches deep in the upper portion; the lower shelves to be about 30 inches deep, the uppermost wide shelf to form the working table. A room six feet square will be sufficient. Outside light is desirable.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SCALE IN FEET
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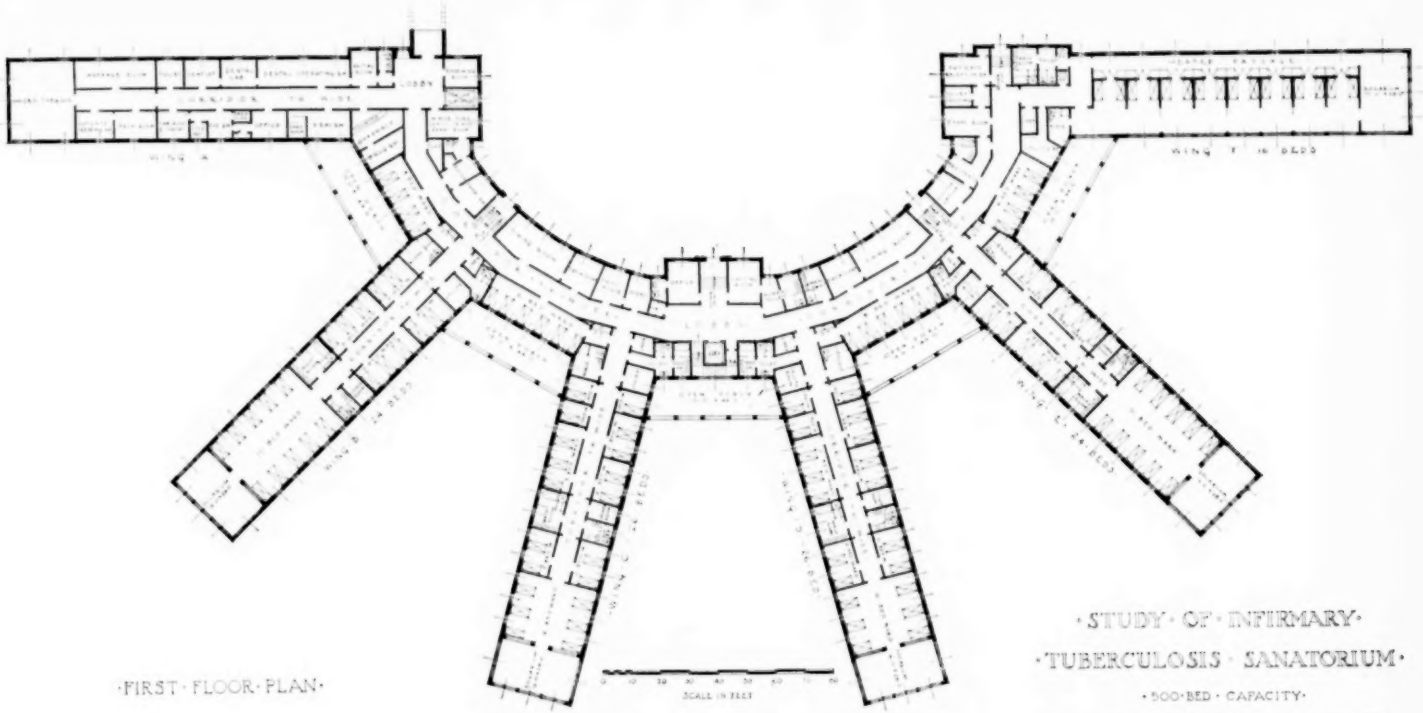

·FIRST · FLOOR · PLAN·

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·500·BED · CAPACITY·

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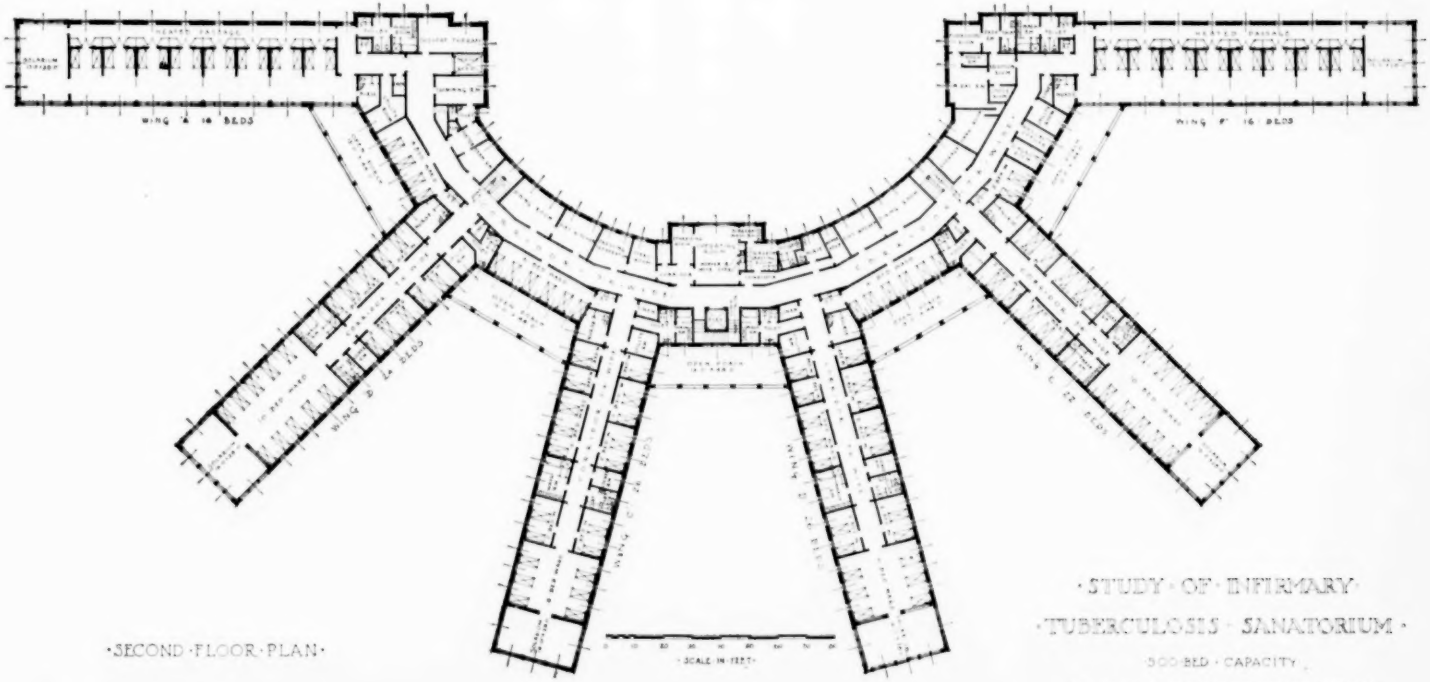

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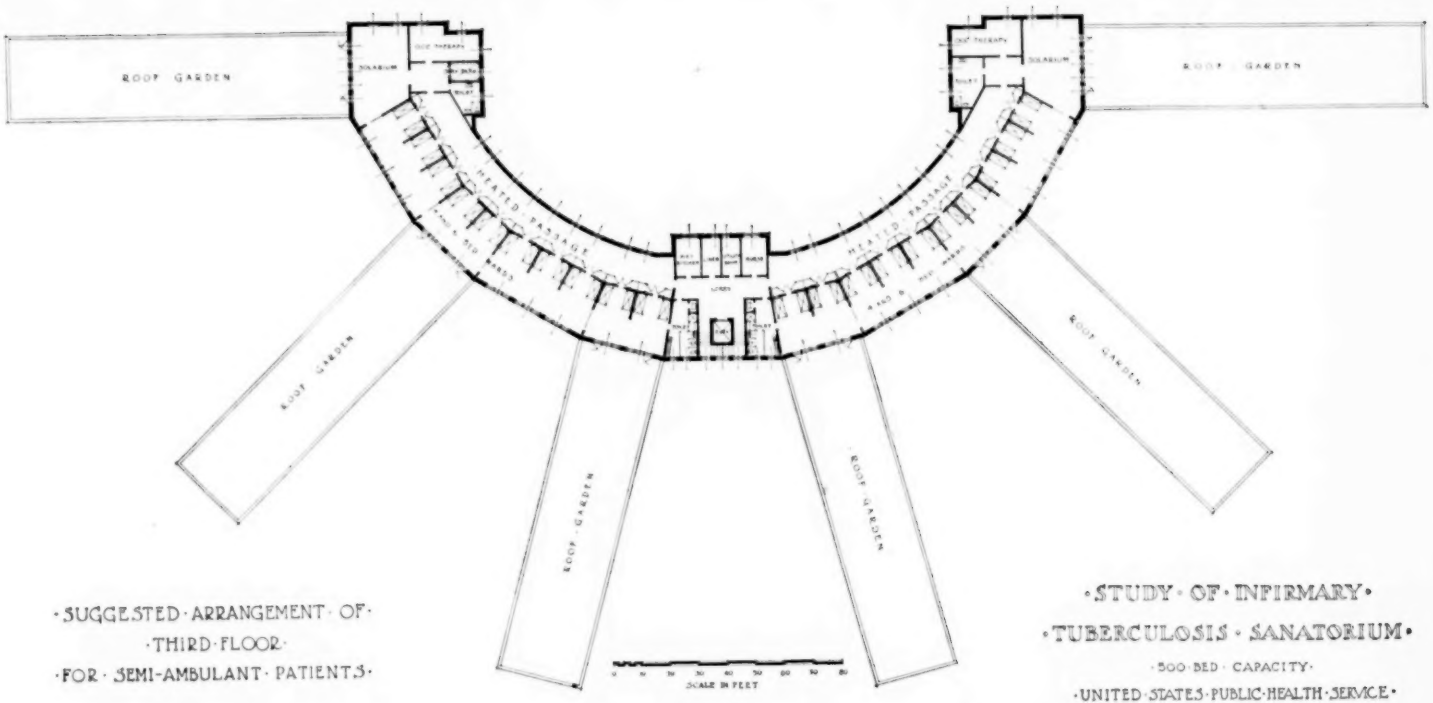
PLATE I



·SUGGESTED·ARRANGEMENT·OF·
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·FOR·SEMI-AMBULANT·PATIENTS·

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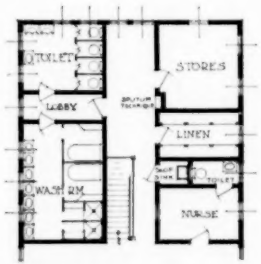
·CROSS·SECTION·



·PART·SECOND·
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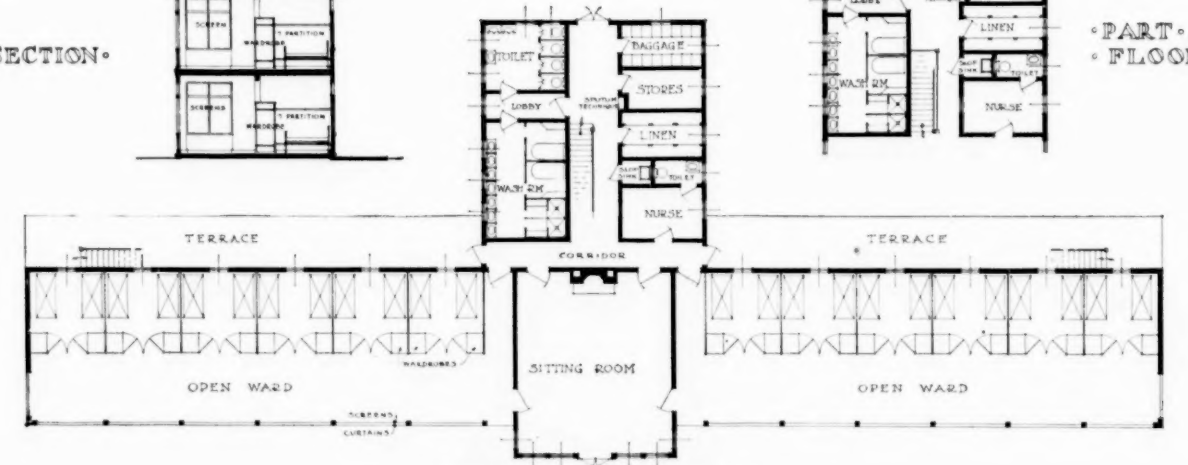

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SCALE IN FEET

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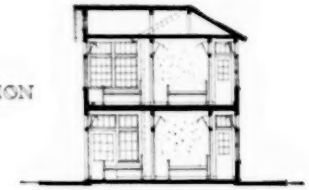
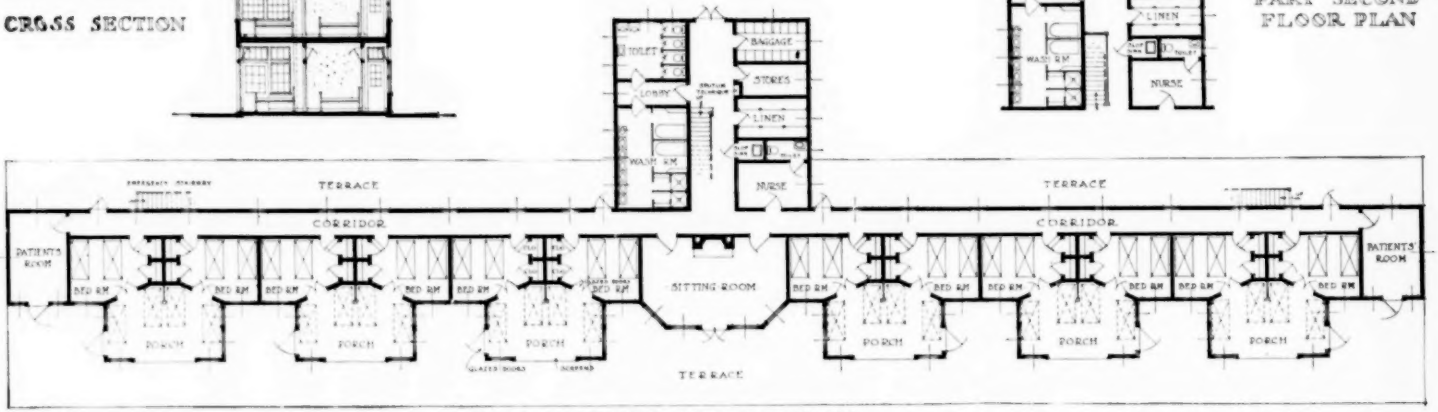
·48 BED CAPACITY

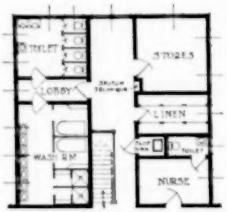
·THE·COTTAGE·IDEA·IN·A·CONGREGATE·BUILDING·

CROSS SECTION





PART SECOND FLOOR PLAN



·FIRST·FLOOR·PLAN·

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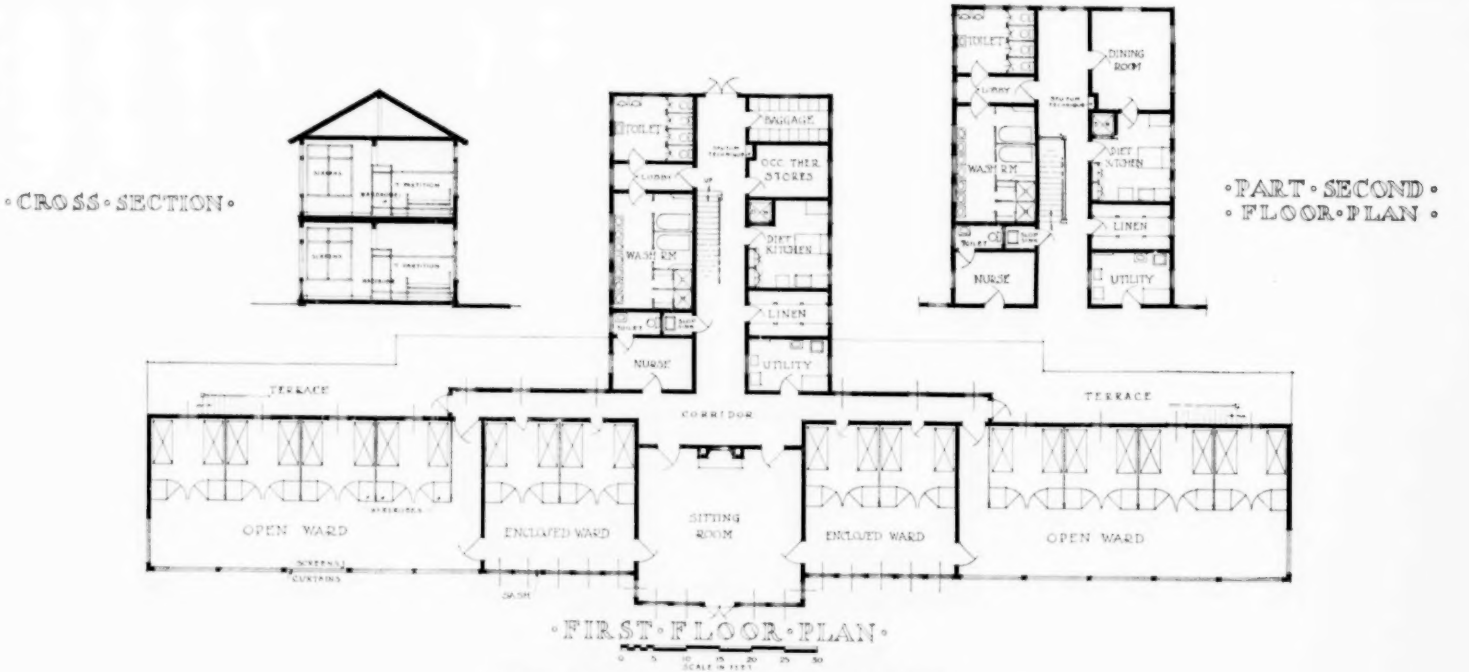
40 BED CAPACITY



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·48 BED CAPACITY

The location should be as central as possible for the beds which are to be served from the closet.

(*f*) *Doctor's office.*—In addition to the chief physician's office (see sec. 4, Medical Administration), there should be at convenient points a small office for the medical officer in charge of a floor, wing, etc., with a toilet and simple lavatory near.

(*g*) *Occupational therapy aide.*—A small room with shelves, similar to the linen rooms, should be provided on each floor, where the occupational aide can keep supplies, patient's work, etc. Theoretically, one such aide is required for each 20 patients; but as acutely ill patients are not able to engage in any occupational work, rooms for the aides need only be provided near the quarters of the patients who are approaching the semiambulant stage.

(*h*) *Patients' toilets.*—For hospital patients, many of whom are confined to bed, toilets in the proportion of one for each 10 or 12 patients will usually be sufficient. Toilet rooms should always be separated from wash rooms, but there should be one lavatory bowl in each toilet room.

(*i*) *Patients' lavatories.*—For hospital patients, lavatory bowls in the proportion of one for each 8 patients will usually be sufficient.

If plugs are omitted from bowls and simple mixing faucets installed, so that ablutions are performed in running water, no dental lavatories need be provided. As the faucet should be rather higher than ordinarily placed, a deeper bowl is advisable.

(*j*) *Patients' baths.*—Shower baths are not suitable for hospital patients. Tubs should be provided in the proportion of one to 15 patients.

(*k*) *Patients' lockers.*—Patients confined entirely to bed require only a standard bedside table with locked cupboard; but as soon as patients are able to walk to the bathroom, etc., a simple wardrobe, in which to hang dressing gown, etc., should be supplied. A storage or check room should be provided, probably in the basement, for patients' suit cases, outdoor clothing, etc.

(*l*) *Janitor's closets.*—Closets for brooms and cleaning materials, equipped with a slop sink, must be provided on each floor.

(*m*) *Elevator.*—In all hospital units of more than one story an elevator large enough to take a standard wheeled stretcher must be provided.

(*n*) *Morgue.*—It is not good practice to include a morgue in the hospital unit. It is much better to locate this in some inconspicuous place near, or in the working buildings, such as the general garage, or, in some cases, the laboratory building in institutions where it forms a separate unit. A room for a mortuary chapel is desirable, but it should not be made a prominent feature of the building group; rather the reverse.

8. Semiambulant Patients' Quarters—General.

A patient is usually classified as "semiambulant" when he is able to dress and go to the main building dining room for his meals. At first this may be the full extent of his exercise, the rest of the day being spent in a cure chair on a porch or in an open ward. Such patients can be conveniently and economically housed in one-story or two-story buildings of the "pavilion type," the sleeping quarters being a modification of the open ward.

At least two types of buildings are required to meet the varying climatic conditions in different parts of the country, which, for convenience, may be termed the "Cold belt" and the "Warm belt," respectively.

Certain general considerations are common to both types:

(*a*) Reference was made in section 6 to the practical impossibility of fixing the relative percentages of patients in the three categories of "hospital," "semiambulant," and "ambulant." For purposes of planning, arbitrary percentages were suggested; but because of the constant variability of the percentages in actual practice, the quarters of semiambulant patients should be so planned that any overflow of bed cases from the hospital proper can be given care in the semiambulant section.

(*b*) If, as occasionally happens, a semiambulant patient suffers a relapse, it should be possible to wheel his cot, at any time of the day or night, into a room apart from the other patients.

Each type must provide for (1) open-air sleeping; (2) individual wardrobe lockers and some privacy for dressing; (3) proper toilet and bathing facilities; (4) nurse's duty room; (5) utility room; (6) diet kitchen, with small dining room adjoining; (7) a day or sitting room; (8) linen closet (day's supply); (9) check or storage room for baggage; (10) janitor's broom closet; (11) space for storage of cure chairs; (12) sputum technique.

(*c*) Units of 20 to 24 patients on one floor are suitable. While variations in detail are numerous, a patient's building of pavilion type usually consists, on each floor, of two wings (open or subdivided, as may be) arranged about a central portion, one ward being on each side of it. The front of the building may be (*a*) straight, (*b*) form a salient angle, or (*c*) form a reentrant angle, somewhat dependent on the site. The service rooms should be on the north side, the sleeping quarters and day room on the south side. (See note on orientation of buildings in warm belt, par. 2, sec. 10.)

(*d*) The most suitable floor surface for the sleeping quarters and the rear dressing corridor is heavy battleship linoleum. Next to that hardwood or rift-sawn (edge-grain) fir is suitable; but it must be finished with good floor varnish, which must be renewed from time to time.

Hard, smooth-finished concrete is suitable for the cross corridor leading to the service rooms and for the rooms themselves. Concrete should not be used for the sleeping quarters and dressing corridors under any circumstances, unless covered with linoleum.

In the following section one floor is described; but the plan of the upper floor is the same, if a two-story building be adopted. If the site permit, the one-story building is ideal for semiambulant and ambulant patients.

In two-story pavilions, the stairs to the upper story should be a straight flight, not less than 4 feet wide in the clear, so that when necessary a patient can be carried down them on a stretcher.

9. Semi-Ambulant Patients' Quarters for Cold Belt.

(*a*) *Sleeping quarters.*—Semiambulant patients should sleep on porches or in unheated rooms so arranged that in effect patients are on a porch. The wings of the pavilion in which the sleeping quarters are located should be not less than 24 feet from front to rear. The front should be almost wholly of glass, with all openings properly screened to exclude flies. The best type of windows for this purpose is one in which the sashes are pivoted on the sides to open outward (of which there are several types on the market), the wire screens being inside. Sashes opening in this way can be kept open in stormy weather longer than ordinary sliding sashes, or casement-type windows, without subjecting the inmates to a direct draft. An upper row of sashes above a transom should be provided with a device for opening and closing (preferably in series at one time) not under the control of the patients.

The beds should be arranged in pairs, with not less than 4 feet 6 inches between them, except as provided in the next sentence. Between each pair of beds a partition should be arranged, against which the beds can be placed, the type of partition varying. To be able to provide for a variable number of bed (hospital) patients overflowing from the hospital, the sleeping space in each wing should be divided by a cross partition into four-bed units. This partition should extend to the ceiling; but that part of it nearest the front should be made to slide or fold, so that the front portion of the wing is open from end to end when none but semiambulant patients are being cared for in it.

Between the center pair of beds in a four-bed section there should be provided a stall partition 7 feet high, 9 feet from front to rear, and 9 inches from floor. A ceiling vent should be provided over each pair of beds.

Toilets should be separated from lavatory and bathrooms by a close partition; there should be one water closet for every six patients. A lavatory bowl should be installed in the toilet rooms.

There should be one tub bath and one shower bath for every 10 patients. Lavatory bowls, one for every four patients. No dental lavatories are necessary if the plugs are omitted from bowls and a simple mixing faucet installed, so that ablutions are performed in running water and the same bowls used without offense for teeth cleaning. (See note (*i*) in sec. 7, "Hospital Building.")

Items (4), (5), and (6) in the last paragraph of subsection (*b*), section 8, are for use only when bed patients are being cared for in the semiambulant unit, and should be similar in detail to the corresponding rooms in the hospital. (Sec. 7, sub secs. (*a*), (*b*), (*c*), and (*d*), respectively.)

The day or sitting rooms should be warm, well lighted, face the south, and be as homelike and attractive as possible.

The linen closet should be as described in section 7, subsection (*e*), and located in the central portion of the pavilion.

The check room should be equipped with batten racks to hold suit cases, etc., in the usual check-room style, the door to be locked and the key in charge of an orderly or nurse.

The janitor's closet should be placed so that it can be reached without entering a toilet room, lavatory, or bath room.

Sputum technique should be provided for by arranging (preferably in the corridor near the entrance to the washroom) a well-lighted, hemicylindrical recess, about 2 feet wide and 20 inches deep, lined and floored with impervious white material. This recess, in which will be placed the containers to receive used cups, should be so located as to be within view of the nurses' station. In a fireproof building a small closed incinerator, such as the Kerner and other well-known makes, can be built into the wall, and the used cups, etc., deposited in it and burnt at intervals.

At the rear of the wings, at grade, a level walk or low terrace should be provided, on which patients can recline in cure chairs in the shade during hot weather.

10. Semiambulant Patients' Quarters for Warm Belt.

There are very few places in the country which are proper localities for the tuberculosis sanatorium where the pavilion described in the previous section would not be quite suitable. In almost every district, on some days and during most nights of the winter months, artificial heat is necessary in the service rooms for all classes of patients. In pavilions adapted for the care of semiambulant patients and also for taking care of an overflow of bed patients from the hospital unit, it should also be possible in cold weather to heat, at least, the sections in which bed patients are being treated.

Reference was made in section 1 (Location and Site) to the orientation of buildings in which patients are housed. Pavilions for semi-

ambulant and ambulant patients in the warm belt should face almost due east, or, possibly, a little to the south of east. The patients are thereby not in direct sunlight during the long daily rest period after the midday meal, which is an important consideration in some districts.

The pavilion suggested for semiambulant patients in the warm belt is a modification of that described in section 9 preceding. The general scheme of a central portion, containing the service rooms and a day room, with two wings for sleeping quarters, is adhered to in the modification. The service rooms are also similar in every respect to those described in section 9, the changes suggested being in the sleeping quarters and dressing corridor. The unit of 24 beds on one floor (12 in each wing) is also unchanged.

The principal change is that the dressing corridor is omitted and the individual wardrobes (P. H. S. Standard) are placed in the sleeping space. From front to rear, the wings should be about 24 feet deep. Longitudinally, the space should be divided by stall partitions into semicubicles 11 feet 6 inches wide, to accommodate two beds each. The stall partitions should be 12 feet 6 inches from front to rear, 7 feet high, and 1 foot from floor. Each cubicle should have a screened window on the rear wall, to provide a through current of air. The front of the wings (except as specified later) need not be glazed, merely screened.

The two cubicles (four beds) nearest the central day room in each wing should be capable of being heated to care for bed patients in an emergency, or an overflow from the hospital unit. An inclosed room should therefore be formed, and an inclosed passageway from the open ends of the wings should be formed at the rear of the room, to afford access to the central portion when the emergency rooms are occupied. The fronts of these rooms should be glazed, either with casement windows or horizontally pivoted sashes, as recommended for pavilions in the cold belt.

Doors wide enough for the passage of a cot should be provided between the inclosed rooms and the open ward; also between the rooms and the day room.

A rear walk, or low terrace, at grade, should be provided at the rear, for reclining on cure chairs in the morning, during very hot weather. Some storage space for the cure chairs should be provided.

11. Ambulant Patients' Quarters for Cold Belt.

Ambulant patients require no nursing and only occasional medical treatment, the chief physical requirement for their care and treatment being comfortable housing, with, of course, a proper regimen of food, rest, and exercise. Therefore, in planning quarters for ambulant patients, while comfort must be considered, provision must also be

made for adequate supervision, with a minimum of administrative time and trouble.

As ambulant patients are able to wear ordinary clothing and to walk to the main dining hall, considerable latitude is possible in locating their quarters on the plat plan, inclosed passageways to the service and other buildings being unnecessary.

There is very general complaint on the part of ambulant patients in sanatoria, who are housed in open wards, of the lack of privacy afforded by accommodation of that type. Many sanatorium authorities to-day believe in small units, of the cottage type, for the housing of ambulant patients. It is a matter of economy, however, both in first cost and administration, if congregate buildings are adopted; but it is not difficult to carry out, by internal planning, the idea of the cottage type in which from two to four patients form the unit.

The most convenient type of congregate building for ambulant patients in the cold belt is similar in general plan and arrangement to the pavilion suggested in section 9 for semiambulant patients, but differs in its interior details. If the site permit, the one-story pavilion is more convenient for supervision, but two-story pavilions are quite suitable.

The following features may be omitted from the list of service rooms details, as specified for semiambulant pavilions:

(*a*) Diet kitchen and dining room;
(*b*) Utility room; and
(*c*) Nurses' duty room.

An enlarged linen room will serve for a place in which the nurse may keep the patients' records. The usual nurses' duty room will not be required, as one nurse usually supervises several pavilions for ambulant patients.

In all other details of service rooms the plans for semi-ambulant patients' pavilions in the cold belt should be followed; also the rear corridor should be provided.

The sleeping quarters should be divided into two-patient rooms, with one four-patient screened sleeping porch to serve two adjoining rooms. Every room should have a window opening directly to the outer air and sunlight, and not on to the screened porch.

It should be possible to heat the rooms in extremely cold weather to a temperature of, say, 50° The corridors and service rooms should be capable of being heated to 70°.

The rear walk, or low terrace, should be provided, as indicated in previous sections.

12. Ambulant Patients' Quarters for Warm Belt.

In their general arrangement and plan, the quarters for ambulant patients in the warm belt should be similar to the type suggested

for semiambulant patients in section 10, but several details of service rooms, etc., therein suggested may be omitted for ambulant patients, as follows:

(*a*) Diet kitchen and dining room;
(*b*) Nurses' duty room; and
(*c*) Utility room.

An enlarged linen room, as described in section 11, should be provided.

The partitioning of a four-bed unit, capable of being heated, on each side of the central day room, as suggested for semiambulant patients' quarters in section 10 (warm belt), is unnecessary. Each wing should be open from end to end on the front side, and divided into two-bed semicubicles by stall partitions and standard wardrobes on the rear. A screened window, to open, should be installed in rear wall of each semicubicle. No rear corridor is necessary; but a rear walk, or low terrace, as described in previous sections, should be provided.

13. Dining Halls, etc.

The service buildings, including dining rooms, kitchen and bakery, store rooms, etc., necessary for a tuberculosis sanatorium, do not differ materially from similar rooms in a general hospital.

In civilian sanatoria, it is not usual to separate the sexes in the main dining hall. If Negroes are in an institution, a separate dining hall, but served by the main kitchen, must be provided.

Nurses, occupational therapy aides, and other female employees of similar grade, should dine together in a separate hall in large institutions. A separate dining room for doctors should also be provided. Male employees, such as office men, laboratory workers, etc., should also dine together.

Other grades of male and female help should be provided with separate dining rooms.

(NOTE.—In planning service buildings, standard lists of personnel are necessary, and should be furnished to the construction section.)

In arranging the patients' dining room, provision should be made for the adoption, if advisable at any time, of the so-called "cafeteria" or selfservice plan, which is now being employed successfully in a number of sanatoria.

14. Other Service and Working Buildings.

In section 2, subsections (*e*), (*f*), (*g*), and (*h*), other service buildings were named, but no description seems necessary, as they do not differ materially from those provided for similar functions in a general hospital.

15. Residences for Staff and Employees.

Reference was made in section 13, to the need for a list of employees for standard sanatoria of given sizes, in order that proper dining-room accommodation may be planned. Such a list is very necessary for the proper planning of residences for the staff and employees.

Some guidance is afforded by the standards for sanatorium administration recently issued by the American Sanatorium Association. In these standards, the number of assistant physicians necessary for a Grade A sanatorium is one for each 50 patients, up to 150 patients, and one for each 75 patients above that number. In addition, there are usually some physicians employed in the laboratories and other departments in large institutions.

For nurses, the American Sanatorium Association Grade A standards call for one to each 10 bed-patients; but it is safe to consider one to each 10 patients throughout, as provision must be made for leave, sickness, etc.

Occupational aides are generally estimated in the proportion of one for each 20 to 25 patients, the latter proportion being probably a safe estimate on which to base housing plans.

16. Laboratories.

A. X-RAY LABORATORY.

Because the application of the X-ray in the diagnosis of tuberculosis has only become general in very recent years, the X-ray laboratory has often been housed in unsuitable rooms, and the space allotted has usually been insufficient for proper work.

An X-ray laboratory (or suite, for several rooms are required) should not be located in a basement, or in any other position which is likely to be damp. In general hospitals, an X-ray laboratory is often located near the operaing suite. In a tuberculosis sanatorium, it should be so located as to be easily reached by all classes of cases, particularly by those who must be wheeled to it. (See subsections (*d*) to (*j*) in section 4, preceding.)

The several units for which provision must be made are:

(*a*) An "operating" room, including fluoroscopic work;
(*b*) Dark room;
(*c*) Machine room;
(*d*) Office and plate filing room; and
(*e*) Waiting room.

In a large institution (say 600 to 1,000 beds), a further subdivision should be made, a separate room being provided for fluoroscopic work, and a filing room for storage of exposed plates, which are kept for record and reference.

(*a*) An operating room should be not less than 12 feet by 16 feet, with a minimum ceiling height of 12 feet, to allow of head room for the operator below the aerial system. An outside window is necessary; also a foul air vent in the ceiling or high up in the wall.

Artificial light should be provided by a ceiling outlet, and there should be a wall switch and two or more wall outlets, of 10 amperes capacity. The walls should be lined to a height of not less than 7 feet with 4-pound lead.

In small institutions the operating room is used also for fluoroscopic examination, shades of opaque material, to run in deep boxes inside the window frames, being provided to render the room absolutely dark. In large institutions a dark room for this purpose, apart from the operating room, should be provided. Ventilation must be provided. The size of the room should be about the same as that of the operating room. Artificial lighting should also be the same as in the operating room.

(*b*) The dark room for developing plates should be near the operating room and should not be less than 8 feet wide and 12 feet long.

A labyrinth entrance is best. On one long side of the room there should be installed a kitchen sink, 30 inches, with hot and cold water laid on, the spigots to be not less than 24 inches above the bottom of the sink. Adjoining the sink, a lead-lined tank should be installed to accommodate three standard developing tanks, the latter being usually of enameled iron, 14¾ inches square and 20 inches deep. The lead-lined tank should be about 24 inches deep and 22 inches wide, inside measurements, so that a circulation of water about the developing tanks can take place. The tanks are flanged on the upper edges, to rest on a board on each side of the top of the large tank. Hot and cold water must be laid on to the large tank, with the outlet near the top. The top of tank should be about 3 feet from the floor.

The rest of the space on the side of the room should be fitted with a working shelf, which should also be returned across the end of the room farthest from the door. Height of shelf, 3 feet from floor; end of shelf near sink to rest on sink to form draining board.

A drying chamber is a great convenience where many plates or films are handled, and consists of an inclosure, about 30 inches square and 6 feet high, in the corner of the developing room. A small electric fan should be installed on the floor, and a metal duct, extending from the top of the chamber to a flue or other outlet, provided.

Loading room.—In a large institution, a small, separate "loading room," about 5 feet by 8 feet, in which unexposed plates can be stored and the plate holders loaded, is a great convenience. Such a

room should adjoin the operating room and be absolutely light tight. To prevent any possibility of rays passing through the partitions or walls forming the room, it should be lead-lined, or the plates may be ruined. Two electric outlets should be provided; also some ventilation.

Machine room.—The machine room should open off the operating room. Size, about 6 feet by 8 feet, with 12-foot ceiling. Outside light is desirable. The walls should be lined with 4-pound lead.

Office.—An office for the chief roentgenologist is necessary. Size, about 10 feet by 12 feet.

Interpretation and filing room.—A room about 12 feet by 18 feet, well lighted by windows, is required for filing current plates, and for their examination and interpretation. One long side should be occupied by a shadow box and the opposite wall should be fitted with shelves and divisions for filing plates. The equipment usually includes, in addition, a stereoscope table, a plain table, and a typewriting desk. Elsewhere in the building there should be space for storing "dead" plates.

Waiting room.—A waiting room, say 12 feet by 16 feet, should be provided. Adjoining it, or opening from it, should be a couple of curtained recesses to form dressing rooms. A toilet room is also convenient. (If women patients are included in the institution, separate waiting, dressing, and toilet rooms are, of course, necessary.)

In general, it is well to arrange the office, waiting rooms, filing room, etc., together, the operating room, developing room, etc., being also grouped.

In a large institution a small office for a clerk or orderly, who receives patients and keeps a card index and other records, should be located adjoining the waiting room.

B. GENERAL LABORATORIES.

The analysis of sputum, urine, etc., as an aid to diagnosis, forms a part of the routine of all tuberculosis sanatoria, and proper laboratory accommodation must be provided for this work.

In addition, every important sanatorium carries on more or less research work. In a sanatorium operated by the United States Public Health Service it is to be assumed that research will form an important part of its functions.

Two laboratories should therefore be provided—one for routine work, the other for special tests and research. The laboratories and the necessary auxiliary rooms may be located in a wing of the hospital building, but in a large institution it would be better if they formed a separate unit. There is reprinted here as an appendix an article by Dr. E. R. Baldwin describing a modern laboratory for a

small tuberculosis hospital, which may well serve as a basis for planning a laboratory for a large institution. Such a laboratory should include two or three units of worktables and other equipment in proportion. North light should be provided in these laboratories.

The auxiliary rooms should include an office for the chief laboratory technician; a storeroom for supplies, preferably located between the two laboratories; toilets for both sexes (female laboratory assistants are often employed); a lecture room in which internes, nurses, etc., may be assembled for instruction; and medical library and reading room.

The sanatorium morgue may also be conveniently included in the laboratory building, but a separate entrance should be provided in as inconspicuous a position as possible. The morgue should include cold storage for bodies, an autopsy room, and a toilet and dressing room for the physicians. A small chapel might also be included in the building.

17. Community Building.

Organized recreation and social work are now recognized as essential factors in the conduct of a modern sanatorium, and should for convenience be centered in one unit, usually termed the "community buildings."

Such a building should include an assembly hall for religious services, concerts, entertainments, addresses, and moving pictures. The capacity of the assembly hall should be about 40 per cent of the bed capacity of the sanatorium, plus about 50 per cent of the total number of employees. It is usual to arrange a gallery for nurses and other women employees.

The patients' library, with quiet rooms for reading and writing, should also be placed in this building.

It is usual to employ an officer to take charge of the recreation and social features, this duty being not only to provide certain forms of regular entertainment, but also to organize and regulate for the commanding officer the various voluntary efforts of this kind offered by outside agencies. This officer should be provided with an office in the community building. If a social-service unit is maintained in the sanatorium, the head of the Service should also have her (or his) office, with room for necessary stenographic help, in this building. If the American Red Cross or similar nongovernmental agencies have representatives in the sanatorium they should also be given office accommodation in the community building.

The community building should be located in a central position for ambulant patients.

18. Occupational and Prevocational Therapy.

While much of the work of occupational and prevocational therapy is carried on in a sanatorium in the wards and on the porches, especially in the semiambulant patients' quarters, it is necessary to provide a center for this work to which an ambulant patient may go when his condition permits, and from which the work may be directed.

In small institutions, the occupation therapy center or "vocational building" (as it is sometimes termed) is usually combined with the community building, but in large institutions a separate unit is usually arranged.

VOCATIONAL BUILDING.

In considering what accommodation is necessary for occupational activities in institutions devoted to the care and treatment of ex-service men, the fact must be borne in mind that under the provisions of the Vocational Rehabilitation Act many of the men, before leaving the sanatorium as arrested cases, enter upon courses of pre-vocational education, leading to subsequent vocational training for some new occupation. Such work is also of value in helping to harden patients physically while they are still under medical supervision. Provision should therefore be made in a sanatorium not only for the work which is given for therapeutic purposes, but also for prevocational work which will lead to or form an introduction to specialized instruction after a man leaves the institution.

Accommodation required.—Until a man reaches the fully ambulant stage, practically all the occupational therapy work can be done either in the wards or on the porches, in the hospital, and semiambulant patients' quarters. It is convenient, therefore, to have a store closet for materials or, better still, a small room on each floor of the hospital building and in each of the pavilions for semiambulant patients. Beyond that, an office for the chief aide, a storeroom for supplies, and a room with a bench or two where work done on the wards can be finished will usually meet the needs of the work which is given to patients who have not reached the ambulant stage.

For patients who have reached the ambulant stage, a much wider range of work can be undertaken. Various rooms are required, and there is need for special quarters in what may well be termed a "vocational building."

Broadly speaking, the work may be divided into classroom subjects and shop work. The classroom subjects will vary scarcely at all in different parts of the country, but the shop work may be supplemented or varied by gardening and agricultural work where climatic and other conditions permit.

The exact number of rooms to be planned will depend upon the size of the hospital, but provision should be made so that at least 75

per cent of the ambulant patients can be accommodated, either in classrooms or shops, at one time. It may be considered that this is high, but it must be remembered that the hours of "exercise" are limited; also, that semiambulant patients nearing the stage of full exercise are often directed by the physician to take periods in the classes or shops.

Suggestions for rooms.—Administration:

(*a*) An office for the chief aid; say, 10 by 12 feet.

(*b*) A storeroom for materials; say, 10 by 12 feet.

(*c*) A room for finishing (assembling, varnishing, dyeing, enameling, etc.); say, 12 by 18 feet.

(*d*) An office for the vocational director; say, 10 by 12 feet.

(*e*) A storeroom for stationery, books, and other supplies for academic classes; say, 6 by 12 feet.

(*f*) A storeroom for shopwork supplies; say, 10 by 25 feet.

(*g*) Toilet rooms for male and female instructors.

(*h*) Toilet rooms for students.

Classrooms.—Because of the individual nature of the instruction, classes should not exceed 16 students. The floor space should provide not less than 35 square feet per student; thus a room 20 by 28 feet would accommodate 16 students. The room should be lighted on one of the long sides, with windows of the side-pivoted type preferably, the light to come from the left of the students. The radiation should be installed below the windows, and a foul-air vent arranged either in the ceiling or high up in the opposite wall. Standard blackboards of slate (or, in temporary construction, of hyloplate) should be installed on the wall at the rear of the teachers' desk and on the wall facing the window. A sink for washing blue prints should be installed in the drafting room; size, about 18 by 30 inches.

Generally, four branches of study should be provided for:

(*a*) Academic.

(*b*) Typewriting.

(*c*) General commercial.

(*d*) Mechanical drafting.

Provided that properly deadened floors are installed, the classroom may be in the upper story of the building in which the shops form the ground floor.

Shops and laboratories.—While suggestions will be made as to sizes of units, it is well to arrange that the interior partitions be of light construction and installed in such a manner that they may easily be moved should changes be necessary.

Factory-type windows are desirable and they should extend to the ceiling. At least 50 per cent of the sashes should be capable of being

opened, preferably horizontally, on side pivots. Light on two adjacent sides of the room is desirable and the window-glass area should be not less than one-fourth the area of the floor space.

Each unit should accommodate from 10 to 12 students and should provide not less than 150 square feet of floor space for each student. The floors should be of heavy groove-and-tongue batten or wood block. Ceiling should be not less than 13 feet high.

The following are typical of the subjects often given in shops in a sanatorium for tuberculous ex-service men:

(*a*) Watchmaking, jewelry, engraving, etc.

(*b*) Tailoring.

(*c*) Shoemaking (provide for a 5-horsepower electric motor).

(*d*) Commercial art.

(*e*) General technical shop or laboratory, used for arts and crafts work of more advanced type than is possible in bedside and ward occupations; also for "try-out" work in cases where the indications as to a student's capacity, inclinations, etc., are not clear. (Provide for a 10-horsepower electric motor.)

In sanatoria in which gardening, agriculture, and other outdoor work form a part of the active features of the vocational classes, it is probable that shoemaking or tailoring or both would be omitted. Instead, a laboratory for science related to the outdoor studies would probably be installed.

In each workshop water should be laid on and a kitchen or other working sink installed.

APPENDIX.

Laboratories for Tuberculosis Sanatoria or Hospitals.[1]

By Edward R. Baldwin, M. D., Saranac Lake, N. Y.

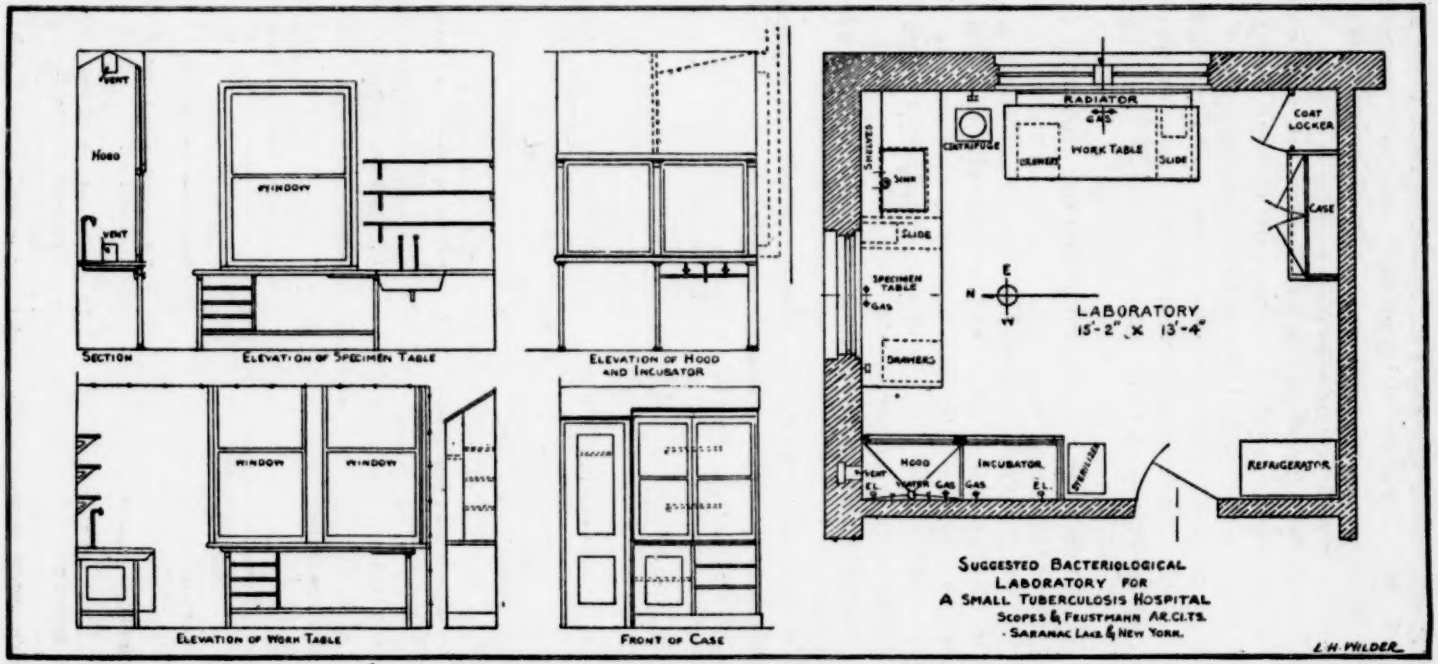
The necessity for laboratory facilities in tuberculosis institutions hardly needs comment. If situated in isolated places the need for bacteriological and pathological examinations close at hand is naturally greater than in a city hospital. In both there should be available modern facilities at least for the essentials. In order to make a practical work place containing a reasonably complete installation the accompanying plan is suggested. It provides the following features:

1. Bacteriological equipment.
2. Chemical equipment.

Requirements for the first are microscope, incubator, sterilizer, centrifuge, sink with drain board, work table with drawers, and a wall case for glassware and books, with cupboard underneath.

For the chemical work and sterilizing, a hood is indispensable and a separate table desirable. A refrigerator should be provided

[1] Reprinted from the Journal of the Outdoor Life, December, 1918.



A SUGGESTED PLAN FOR A SANATORIUM LABORATORY.

or accessible. Some wire cages for guinea pigs and white mice could be kept in the laboratory, although preferably in a warm basement. Other furniture suggests itself, such as wall shelves convenient to the sink; also coat hooks or a locker.

When gas is not accessible, a gasoline or kerosene vapor stove may be used in the hood for sterilizing; and very good electrical appliances are to be had for heating the incubator and of course for operating the centrifuge. Alcohol lamps are objectionable on account of the fire hazard, but are more convenient than gasoline torches if gas can not be had.

The sink and water taps should be near the specimen table for convenience in routine sputum and urine examinations.

With the arrangement indicated on the plan almost any diagnostic laboratory work could be undertaken, such as the search for tubercle bacilli in any secretion, blood and throat cultures for pneumonia, typhoid and diphtheria, tuberculosis complement fixation tests, and chemical and microscopic tests of the blood, urine, or pathological fluids. Inoculations of animals for diagnosis can readily be made; and, if desired, pathological specimens can be made with a little more equipment.

As to equipment, the following list of apparatus, chemicals, and glassware for routine sanatorium is suggested:

Microscope, with three objectives, ⅔ inch, ⅓ inch, and 1/12 inch, and two oculars, 5x, 10x.
Hemocytometer.
Hemoglobinometer.
Centrifuge, water or electric, 4 arms to hold 15 c. c. tubes.
Thermostat, gas or electric heat, with regulator and thermometer, 12 by 18 inches.
Autoclave, 11 by 24 inches.
Sterilizer, steam, copper, small Arnold.
Sterilizer and stand, hot air, iron, small.
Coagulator or serum tube inspissator, small.
Water bath copper, 8 inches.
1 ring stand, rings 3 inches, 6 inches.
1 burette holder, 2 clamps.
2 bunsen burners, 1 wing top, 1 gauze top.
1 gas stove, for hood.
1 agate double boiler, 1 quart.
1 agate single boiler, 1 gallon.
2 agate trays, 12 by 9 inches.
1 agate funnel, 6 inches.
4 wire guinea-pig cages, 12 by 18 inches.
6 wire baskets, circular, 5 by 6 inches.
1 test tube support, copper circular, 24 holes, 6 inches.
2 test tube supports, wood, 12 holes.
1 test tube and flask support (wall) wood, for drying.
2 test tube holders, wood.
1 funnel support, wood.
6 test tube brushes, small.
1 potato cutter.
1 Enterprise meat cutter, small.
1 balance and weights, 0.1 gm. to 100 gms.
1 water still, Jewell or Barnstead.
Instruments:
4 wire slide holders.
2 cover slip forceps.
1 pair steel shears, 10 inches.
1 pair nickelled scissors, blunt, 6 inches.
1 pair nickelled scissors, blunt, 4 inches.
2 pairs nickelled thumb forceps, 5 inches.
1 pair nickelled thumb forceps, 3 inches.
2 small scalpels.
3 glass barrel syringes, 1 c. c.
2 glass barrel syringes, 10 c. c.
1 glass barrel syringe, 20 c. c.
6 three-cornered files, 3 inches.
1 flat file, 6 inches.
1 pair wire cutters and pliers, 6 inches.
1 steel spatula, nickelled, 6 inches.
1 steel spatula, nickelled, 3 inches.
3 rubber bulbs for pipettes.
6 rubber bulbs for medicine dropper.
12 feet rubber tubing, black, thin wall, 1/16 inch
6 feet rubber tubing, black, pressure, ¼ inch.
12 feet rubber tubing, metal covered (gas connection).
1 pair rubber gloves.
6 rubber stoppers, each No. 0, No. 2, No. 6.
Glassware:
2 thermometers, cent. 100°.
2 urionometers.
2 albuminometers (Esbach).
2 saccharometers (Einhorn).
2 ureometers (Doremus).
2 burettes (plain), 50 c. c.
1 cylinder graduate, 1,000 c. c.

Glassware—Continued.
- 2 cylinder graduates, 250 c. c.
- 2 cylinder graduates, 50 c. c.
- 2 cylinder graduates, 10 c. c.
- 2 cylinder glass stoppered, 50 c. c.
- 12 pipettes (Mohr's) graduated, 10 c. c. in $\frac{1}{10}$ c. c.
- 12 pipettes (Mohr's) graduated, 5 c. c. in $\frac{1}{10}$ c. c.
- 12 pipettes (Mohr's) graduated, 1 c. c. in $\frac{1}{100}$ c. c.
- 2 gross test tubes, thin wall, $\frac{3}{4}$ by 6 inches.
- 2 gross test tubes, culture, heavy wall, no lip, $\frac{3}{4}$ by 5 inches.
- 1 gross test tubes, medium wall, no lip, $\frac{1}{2}$ by 4 inches.
- 50 centrifuge tubes, no lip, 15 c. c.
- 6 glass funnels, 3 inches.
- 6 glass funnels, 6 inches.
- 3 glass funnels, ribbed, 6 inches.
- 2 nests beakers, usual form, 30 c. c. to 250 c. c.
- 6 flasks (Erlenmeyer) 250 c. c.
- 6 flasks (Erlenmeyer) 500 c. c.
- 6 flasks, round, flat bottom, 250 c. c.
- 6 flasks, round, flat bottom, 500 c. c.
- 6 flasks, round, flat bottom, 1,000 c. c.
- 2 washbottles, 1,000 c. c.
- 12 watch glasses, assorted, 3 to 6 inches.
- 6 gross microscope slides, medium ground, 3 by 1 inch.
- $\frac{1}{2}$ ounce cover glasses No. 1, $\frac{3}{4}$ inch.
- 2 pounds glass tubing, rods, assorted, 3 feet.
- 4 battery jars.
- 6 specimen jars (lightning), 1 pint.
- 25 petro dishes, 100 by 15 mm.
- 1 mortar and pestle (Wedgewood), 8 inches.
- 2 mortar glass pestles, 6 inches.
- $\frac{1}{2}$ pound solid glass beads.
- 9 Reagent bottles, glass stoppered, 125 c. c., labelled:
  - Sulphuric acid.
  - Nitric acid.
  - Hydrochloric acid.
  - Ammon. hydrox.
  - Alcohol.
  - Ether.
  - Sod. hydroxide.
  - Iodine solution.
- 6 Reagent bottles, plain.
- 12 dropping bottles, finger pipette, 30 c. c.
- 6 dropping reagent bottles, wide mouth.
- 4 glass plates, 6 by 8 inches.
- 1 glass alcohol lamp.

Chemical supplies:
- 9 pounds acid sulphuric, conc., c. p.
- 9 pounds acid hydrochloric, conc., c. p.
- 9 pounds acid nitric, conc., c. p.
- 1 pound acid acetic, glacial.
- 1 gallon alcohol, 95 per cent.
- 2 pounds ether, (anesthetic).
- 1 pound chloroform (anesthetic).
- 1 liter ammon. hydroxide, conc.
- $\frac{1}{2}$ liter xylol.
- 1 liter sodium hydroxide (normal solution).
- $\frac{1}{2}$ liter Benedict's cupric sulphate solution.
- 100 c. c. Lugol's solution (iodine).
- 1 pound phenol (cryst.).
- 100 c. c. analine oil.
- 1 pound sodium bicarbonate.
- 1 pound sodium chloride (table salt).
- 1 pound hydroxide sticks.
- $\frac{1}{2}$ pound meat extract.
- 2 ounces bromine.
- 250 gms. Fuchsine (acid).
- 100 gms. methylene blue.
- 100 gms. methyl blue.
- 50 gms. gentian violet.
- 50 gms. Bismarck brown.
- 100 gms. cedar oil.
- 1 tube Canada balsam.
- 1 tube LePage's glue.
- 10 gms. phenophthalein.
- 10 gms. potass. bichrom. (com.).
- 500 filter paper, white, 4 inches.
- 500 filter paper, white, 6 inches.
- 250 filter paper, white, 8 inches.
- 5 quires filter paper sheets, smooth, 20 by 20 inches.
- 5 pounds glycerine (pure).
- 1 pound peptone.[1]
- 1 pound agar.
- 1 pound gelatine.
- 1 pound paraffin.
- 2 ounces vaseline.
- 2 pounds cotton, cheap absorbent.
- $\frac{1}{2}$ quire gummed paper.

In addition to the necessary diagnostic work such a laboratory is a real stimulus for the members of the staff, among whom the dull routine tends to stagnation without opportunities for study.

THE TREATMENT OF SURGICAL TUBERCULOSIS.

By R. W. Hart, Passed Assistant Surgeon, United States Public Health Service.

External or surgical tuberculosis consists of tuberculosis of bones and joints, glandular tissues, genito-urinary tract, peritoneum, gastro-intestinal tract, and perirectal tissues.

The proper treatment of surgical tuberculosis requires a judicious combination of all the measures commonly employed in the treatment of pulmonary tuberculosis, as well as immobilization of the

[1] Culture media may be purchased ready to prepare.

part, where possible, by the free use of casts and similar appliances, heliotherapy, and, more rarely, active surgical intervention.

A common type of surgical tuberculosis is that involving bones and joints, such as tuberculosis of the spine (Pott's disease), or tuberculous disease of the epiphyses of long bones. There is a marked difference between tuberculous osteomyelitis and osteomyelitis epiphyses due to pyogenic bacteria. Under the influence of rest and immobilization, tuberculous processes of bone tend to recover, whereas osteomyelitis due to septic bacteria tends rather to progress. For this reason the treatment of these two types of osteomyelitis is radically different.

Tuberculous abscesses from diseased bone follow fascial planes and may gravitate for a considerable distance from the original focus of disease. The most common illustration of this is the gravitation abscess in low Pott's disease, which commonly points in the thigh and is known as a psoas abscess. The uninfected cold abscess tends to recover under otherwise favorable conditions.

The dictates of good surgery in tuberculosis demand that no wound of entrance be made which, by any possibility, might lead to a secondary infection by pyogenic organisms. When a tuberculous abscess forms, it should never be incised, but rather, if any interference is indicated, its contents should be aspirated by means of a very carefully sterilized fine-gauge needle, through sound tissue. The needle should enter the abscess well to one side of the diseased process and should travel through from 1 to 2 inches of sound tissue before entering the abscess cavity.

The relief attendant upon aspiration is fully as great as that attendant upon incision, and has the additional advantage of not opening a portal for infection, which, if it should occur, gives rise to further destruction of tissue even under conditions of strictest immobilization.

Aspiration may be necessary as frequently as once a week over some period of time. Usually, two or three successive aspirations are sufficient if the parts are properly immobilized. The removal of pus may be followed by the injection of small amounts of medicaments, if desired. When a tuberculous abscess from Pott's disease forms in the loin, it may be treated in the same way; namely, by aspiration alone or by aspiration and injection. Hips and smaller joints may be treated by this method, though ordinarily they do not require aspiration, as the quantity of pus formed is usually slight and will become organized if perfect immobilization is carried out.

Aspiration alone, in these cases, is not sufficient. As soon as bone tuberculosis is diagnosed, the affected part should be carefully immobilized. In the case of the spine, this is best carried out either by means of a plaster jacket put on with the patient in the erect posture,

with suspension from the axilla and head, or by means of a cast put on with the patient in a prone position. Casts for spinal disease should be of sufficient length to surely immobilize the affected part. Where abscess formation has taken place, a window should be left in the cast, sufficiently large, that aspiration may be carried out as indicated in the foregoing.

During the acute stage of the tuberculous process, rest in bed is imperative, and in involvement of joints of the lower extremities, combined traction and immobilization may be necessary to reduce the pain. The points of greatest importance to remember in the treatment of bone tuberculosis are, first, that the introduction of secondary infection invariably leads to a much more serious condition than the tuberculous process alone, and every precaution must be taken to prevent the ingress of septic organisms; and secondly, that recovery is due to the same general processes of repair involved in recovery from pulmonary tuberculosis.

Immobilization is best accomplished by means of plaster casts, although in the later stages sufficient immobilization can be secured by means of mechanical braces and appliances. The cure of these cases presages a period of constant treatment and observation of from six months to two years.

In the case of those unfortunates having fistula, two courses are open—one is the complete excision of tuberculous tissue where possible, with the consequent granulation of the sinus; the other is the attempted sterilization of the sinus by means of chemicals. The greatest aseptic care is necessary in dressing these fistulæ. Direct sunlight exercises a very beneficial effect on tuberculous fistulæ.

Where the tuberculous involvement is comparatively slight, it is occasionally permissible, even without sinus formation, to completely excise tuberculous tissue. As, for instance, in tuberculosis of the astragalus, involving this bone alone, it may be permissible to remove completely a part or the whole of the astragalus. This is occasionally successfully done in cases involving a joint as large as the hip. The conservative treatment of bone tuberculosis—namely, that treatment consisting of long-continued immobilization—together with careful general care, will give a greater percentage of good results than the more radical treatment, except in selected cases in the hands of those extraordinarily adroit in operative procedures.

Of almost equal importance in the treatment, is carefully conducted heliotherapy, either by means of natural sunlight or by means of artificial sun lamps of the mercury-vapor type. The value of direct sunlight in cases of bone tuberculosis can hardly be overestimated. The treatment consists of gradual exposure to direct sunlight, starting by exposure of the feet, later the legs and thighs,

and still later the abdomen and chest. This treatment is carried out regardless of the site of the lesion.

The dietetic treatment of bone tuberculosis is that of tuberculosis of any other part of the body. In addition to the general care and the specific methods of treatment above outlined, small doses of tuberculin have given beneficial results in certain cases. This dangerous agent should, however, be employed only by one thoroughly versed in its use.

The treatment of glandular tuberculosis consists either in puncture and injection or in excision of the involved lymph structures. Excision, where done, must be sufficiently radical to remove all the tissue involved. Incision of tuberculous glands should rarely be done. In those cases where an immediate rupture of the abscess is feared and where excision can not be done, aspiration is indicated.

The two main foci of tuberculosis in the genito-urinary tract are the kidneys and testicles. Since tuberculosis of the kidney is usually unilateral, the recognized method of treatment is removal of the involved kidney. In early tuberculosis of the testicles, the part primarily involved is the epididymis. From here the process extends along the cord and may eventually involve the vesicles, prostate, and bladder. In the early stages of testicular tuberculosis, involving only the epididymis and vas, excision of the epididymis and vas should be done and should be sufficiently extensive to make certain the removal of all involved tissue. Where the testicle itself is involved and its removal has been decided upon, a mere amputation of the cord at the external ring is not sufficient. The dissection of the vas must be carried well through the internal ring. Amputation of the cord at the external ring frequently gives rise to a tuberculous stump.

Tuberculosis of the peritoneum is benefited but little by surgical procedure, although, occasionally, startlingly beneficial results have followed a laparotomy with exposure of the involved peritoneum to the air. The treatment in general, however, is that of pulmonary tuberculosis plus vigorous heliotherapy.

Tuberculous fistula involving the perirectal tissue is quite common and is seen in approximately 10 per cent of all cases of pulmonary tuberculosis. There are two methods of treatment of these fistulæ, incision and excision. Incision with a thorough curettement of the fistulous tract, followed by daily dressing, will usually give satisfactory results. For the skillful operator thoroughly versed in the anatomy of the parts, complete excision of the fistula gives a higher percentage of cures in a lesser period of time.

It is impossible in a brief note of this sort to more than indicate the treatment of surgical tuberculosis. However, the above outline should constitute in a general way the method of treatment of surgical tuberculosis in United States Public Health Service hospitals.

PRINCIPAL CAUSES OF DEATH, MARCH AND APRIL, 1921.

The accompanying table is reprinted from the Statistical Bulletin of the Metropolitan Life Insurance Co., for May, 1921. It presents the mortality data of the industrial department of the company for the months of March and April, 1921, and for the year 1920. The figures are based on a strength of approximately 13,000,000 insured persons.

Although these rates apply to a more or less selected group, they are very good indices of the comparative mortality conditions of the general population.

Death rates (annual basis) per 100,000 for principal causes, March and April, 1921, and year 1920.

[Industrial Department, Metropolitan Life Insurance Co.]

Causes of death.	Death rate per 100,000 lives exposed.		
	April, 1921.	March, 1921.	Year 1920.
Total, all causes	921.5	1,015.0	968.4
Typhoid fever	3.3	3.1	6.5
Measles	5.4	5.9	8.3
Scarlet fever	9.4	9.5	5.9
Whooping cough	3.8	6.2	6.5
Diphtheria	18.4	24.4	21.6
Influenza	14.8	17.1	52.3
Tuberculosis (all forms)	133.4	133.9	135.0
Cancer	70.0	73.0	68.3
Meningitis (all forms)	7.1	6.4	5.1
Cerebral hemorrhage	57.3	68.1	60.1
Organic diseases of heart	124.3	139.9	114.6
Pneumonia (all forms)	88.0	120.9	103.9
Other respiratory diseases	13.1	17.8	17.8
Diarrhea and enteritis	9.6	8.8	15.5
Bright's disease	76.8	74.2	69.4
Puerperal state	22.0	24.3	22.5
Suicides	7.2	6.1	6.0
Homicides	6.1	4.9	5.7
Other external causes (excluding suicides and homicides)	45.1	44.7	58.1
Traumatism by automobile	10.2	7.4	10.9
All other causes	205.4	225.7	185.3

DEATHS DURING WEEK ENDED JUNE 4, 1921.

Summary of information received by telegraph from industrial insurance companies for week ended June 4, 1921, and corresponding week, 1920. (From the "Weekly Health Index," June 7, 1921, issued by the Bureau of the Census, Department of Commerce.)

	Week ended June 4, 1921.	Corresponding week, 1920.
Policies in force	46,830,928	43,961,323
Number of death claims	7,242	8,257
Death claims per 1,000 policies in force	8.1	9.8

Deaths from all causes in certain large cities of the United States during the week ended June 4, 1921, infant mortality, annual death rate, and comparison with corresponding week of preceding years. (From the "Weekly Health Index," June 7, 1921, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population, July 1, 1921.	Week ended June 4, 1921.		Average annual death rate per 1,000.[2]	Deaths under 1 year.		Infant mortality rate, week ended June 4, 1921.[3]
		Total deaths.	Death rate.[1]		Week ended June 4, 1921.	Previous year or years.	
Akron, Ohio	229,195	23	5.2	[4]9.8	5	[4]8	48
Albany, N. Y	115,071	40	18.1	C 15.1	1	C 4	22
Atlanta, Ga	207,473	54	13.6	C 17.0	5	C 9	.....
Baltimore, Md	752,863	158	10.9	A 15.6	20	A 27	56
Birmingham, Ala	186,133	47	13.2	A 20.8	6	A 9	.....
Boston, Mass	757,634	157	10.8	A 18.3	21	A 42	57
Bridgeport, Conn	149,967	36	12.5	A 14.3	4	A 6	50
Buffalo, N. Y	519,608	122	12.2	C 12.8	25	C 18	97
Cambridge, Mass	110,444	25	11.8	A 13.1	3	A 3	54
Camden, N. J	119,672	16	7.0	.....	3	.....	.....
Chicago, Ill	2,780,655	538	10.1	A 14.1	69	A 110	.....
Cincinnati, Ohio	403,418	91	11.8	C 17.0	9	C 13	50
Cleveland, Ohio	831,138	133	8.3	C 12.0	22	C 30	59
Columbus, Ohio	245,358	59	12.5	C 13.0	4	C 5	46
Dallas, Tex	165,282	44	13.9	A 14.8	11	A 3	.....
Dayton, Ohio	158,119	28	9.2	C 11.8	2	C 5	33
Denver, Colo	263,152	60	11.9	A 12.6	4	.....	.....
Detroit, Mich	1,070,450	195	9.5	C 12.5	45	C 44	85
Fall River, Mass	120,668	21	9.1	C 9.1	4	C 5	60
Grand Rapids, Mich	141,197	24	8.9	C 19.5	2	C 12	34
Indianapolis, Ind	325,215	71	11.4	C 14.8	7	C 8	54
Jersey City, N. J	302,788	64	11.0	C 12.7	9	C 4	.....
Kansas City, Kans	103,884	19	9.5	.....	2	.....	48
Kansas City, Mo	336,157	81	12.6	C 12.9	11	C 12	.....
Los Angeles, Calif	611,921	176	15.0	A 12.2	21	A 13	99
Louisville, Ky	236,083	45	9.9	C 14.0	6	C 8	69
Lowell, Mass	113,757	30	13.8	A 18.1	4	A 8	64
Memphis, Tenn	165,389	66	20.8	C 16.3	16	C 9	.....
Milwaukee, Wis	468,386	83	9.2	A 12.3	12	A 20	58
Minneapolis, Minn	392,815	74	9.8	C 12.9	6	C 13	34
Nashville, Tenn	122,036	33	14.1	C 18.0	3	C 4	.....
New Bedford, Mass	125,012	31	12.9	A 15.2	6	A 9	92
New Haven, Conn	167,007	21	6.6	C 11.1	5	C 6	60
New Orleans, La	394,657	118	15.6	A 21.0	16	A 25	.....
New York, N. Y	5,751,867	1,208	11.0	C 11.6	148	C 208	58
Newark, N. J	424,885	74	9.1	C 12.4	10	C 13	.....
Norfolk, Va	121,260	25	10.8	.....	9	.....	160
Oakland, Calif	226,472	54	12.4	A 10.1	4	A 2	51
Omaha, Nebr	197,066	33	8.7	.....	3	.....	.....
Paterson, N. J	137,463	27	10.2	.....	2	.....	.....
Philadelphia, Pa	1,866,212	428	12.0	[4]14.3	54	[4]60	65
Pittsburgh, Pa	602,452	151	13.1	C 16.0	22	C 41	78
Portland, Oreg	264,850	46	9.1	C 10.6	2	C 5	20
Providence, R. I	239,645	66	14.4	C 12.0	15	C 8	.....
Richmond, Va	175,686	48	13.7	C 16.6	10	C 4	122
Rochester, N. Y	305,229	88	15.0	C 14.8	13	C 11	101
St. Louis, Mo	786,164	172	11.4	C 11.9	10	C 16	.....
St. Paul, Minn	237,781	36	7.9	C 12.8	3	C 5	30
Salt Lake City, Utah	121,595	28	12.0	A 11.3	5	.....	77
San Francisco, Calif	520,546	122	12.2	C 13.4	10	C 5	56
Seattle, Wash	327,227	53	8.4	A 7.6	5	A 3	42
Spokane, Wash	104,442	36	18.0	C 12.5	4	C 1	87
Springfield, Mass	125,877	21	8.1	.....	4	.....	60
Syracuse, N. Y	177,265	40	11.8	C 16.2	5	C 8	60
Toledo, Ohio	253,606	57	[5]11.7	A 15.5	9	A 8	91
Trenton, N. J	122,760	37	15.7	A 20.1	7	A 8	.....
Washington, D. C	454,026	109	12.5	A 14.0	9	A 11	53
Wilmington, Del	113,408	24	11.0	C 19.2	3	.....	.....
Worcester, Mass	184,972	46	13.0	C 19.5	9	C 10	97
Yonkers, N. Y	103,324	11	5.6	A 11.5	2	A 3	45
Youngstown, Ohio	139,432	23	8.6	.....	4	.....	51

[1] Annual rate per 1,000 population.

[2] "A" indicates data for the corresponding week of the years 1913 to 1917, inclusive. "C" indicates data for the corresponding week of the year 1920.

[3] Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1920. Cities left blank are not in the registration area for births.

[4] Data based on statistics of 1915, 1916, and 1917.

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended June 11, 1921.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

ALABAMA.	Cases.
Chicken pox	18
Diphtheria	5
Hookworm	52
Influenza	33
Malaria	3
Measles	49
Ophthalmia neonatorum	1
Pellagra	11
Pneumonia	3
Scarlet fever	6
Smallpox:	
Jefferson County	19
Lauderdale County	16
Scattering	39
Tuberculosis	25
Typhoid fever	29
Whooping cough	3

ARKANSAS.	
Cerebrospinal meningitis	1
Chicken pox	16
Diphtheria	6
Hookworm	1
Influenza	9
Malaria	92
Measles	46
Pellagra	17
Scarlet fever	6
Smallpox	17
Trachoma	6
Tuberculosis	12
Typhoid fever	15
Whooping cough	23

CALIFORNIA.	
Cerebrospinal meningitis:	
Oakland	2
San Francisco	2
Scattering	2
Influenza	18
Lethargic encephalitis:	
San Francisco	2
Scattering	3
Poliomyelitis—Sacramento	1
Rocky Mountain spotted fever:	
Alturas	1
Smallpox:	
Riverside	13
San Francisco	16
Scattering	52
Typhoid fever	18

COLORADO. (Exclusive of Denver.)	
Cerebrospinal meningitis	1
Chicken pox	4
Diphtheria	10
Influenza	5
Measles	17
Mumps	1
Pneumonia	2
Scarlet fever	12
Smallpox	17
Typhoid fever	9
Whooping cough	6

CONNECTICUT.	
Cerebrospinal meningitis	3
Chicken pox	32
Conjunctivitis (infectious)	3
Diphtheria:	
Hartford	12
Scattering	36
Measles:	
Hartford	10
North Canaan	14
Waterbury	18
Scattering	24

CONNECTICUT—continued.

	Cases.
Mumps	106
Pneumonia (lobar)	14
Scarlet fever:	
Bridgeport	11
Scattering	34
Septic sore throat	1
Trachoma	1
Tuberculosis (pulmonary)	35
Typhoid fever	8
Whooping cough	56

FLORIDA.

Diphtheria	8
Lethargic encephalitis	1
Malaria	13
Measles	25
Paratyphoid fever	3
Scarlet fever	3
Smallpox	26
Typhoid fever	14

GEORGIA.

Chicken pox	40
Diphtheria	7
Dysentery (amebic)	1
Dysentery (bacillary)	19
Hookworm	6
Influenza	6
Malaria	81
Measles	31
Mumps	9
Pellagra	4
Pneumonia	6
Poliomyelitis	1
Rabies in man	1
Scarlet fever	10
Smallpox	41
Tetanus	1
Trachoma	1
Tuberculosis (pulmonary)	13
Typhoid fever	50
Typhus fever	1
Whooping cough	16

IDAHO.

Cerebrospinal meningitis:	
Minidoka County	1
Chicken pox	9
Diphtheria	3
Measles	11
Scarlet fever	6
Smallpox	6
Typhoid fever	1
Whooping cough	1

ILLINOIS.

Cerebrospinal meningitis:	
Chicago	1
Galesburg	1
Warren County—Hall Township	1
Diphtheria:	
Chicago	141
Scattering	34
Influenza	1
Pneumonia	98

ILLINOIS—continued.

	Cases.
Poliomyelitis:	
Chicago	1
Pike County—Spring Creek Township	1
Scarlet fever:	
Chicago	104
Decatur	9
Scattering	60
Smallpox:	
Chicago	8
Scattering	44
Typhoid fever	12

INDIANA.

Diphtheria	55
Scarlet fever	75
Smallpox	76
Typhoid fever	13

IOWA.

Diphtheria	21
Scarlet fever	22
Smallpox	95

KANSAS.

Chicken pox	41
Diphtheria	27
German measles	3
Influenza	3
Measles	167
Mumps	4
Pneumonia	3
Poliomyelitis	1
Scarlet fever	45
Smallpox	132
Tuberculosis	47
Typhoid fever	15
Whooping cough	75

LOUISIANA.

Cerebrospinal meningitis	1
Paratyphoid fever	1
Pellagra	10
Smallpox	19
Typhoid fever	18

MAINE.

Chicken pox	8
Diphtheria	8
Measles	31
Mumps	1
Pneumonia	2
Poliomyelitis	3
Scarlet fever	32
Tuberculosis	6
Typhoid fever	3
Whooping cough	30

MARYLAND.[1]

Cerebrospinal meningitis	1
Chicken pox	33
Diphtheria	35
Dysentery	3
German measles	2
Influenza	6
Lethargic encephalitis	3
Malaria	6

[1] Week ended Friday.

MARYLAND—continued.

	Cases.
Measles	136
Mumps	31
Pneumonia (all forms)	56
Poliomyelitis	1
Scarlet fever	23
Smallpox	1
Tuberculosis	63
Typhoid fever	18
Whooping cough	141

MASSACHUSETTS.

Cerebrospinal meningitis	2
Chicken pox	98
Conjunctivitis (suppurative)	7
Diphtheria	159
German measles	29
Influenza	4
Malaria	3
Measles	419
Mumps	112
Ophthalmia neonatorum	13
Pneumonia (lobar)	66
Poliomyelitis	2
Scarlet fever	115
Septic sore throat	1
Tetanus	2
Trachoma	1
Tuberculosis (all forms)	197
Typhoid fever	14
Whooping cough	104

MINNESOTA.

Chicken pox	51
Diphtheria	42
Measles	63
Pneumonia	1
Poliomyelitis	1
Scarlet fever	77
Smallpox	154
Tuberculosis	44
Typhoid fever	11
Whooping cough	8

MISSISSIPPI.

Diphtheria	1
Poliomyelitis	1
Scarlet fever	1
Smallpox	76
Typhoid fever	25

MISSOURI.

Chicken pox	26
Diphtheria	36
Measles	47
Mumps	29
Ophthalmia neonatorum	2
Scarlet fever	28
Smallpox	111
Trachoma	3
Tuberculosis	38
Typhoid fever	9
Whooping cough	120

MONTANA.

	Cases.
Diphtheria	5
Rocky Mountain spotted or tick fever:	
Kachia	1
Scarlet fever	8
Smallpox	10
Typhoid fever	4

NEBRASKA.

Chicken pox	30
Diphtheria	5
German measles	2
Measles	25
Mumps	5
Pneumonia	1
Poliomyelitis—Wayne County	1
Scarlet fever	32
Smallpox:	
Nemaha County	8
Thayer County	8
Scattering	60
Tetanus	3
Tuberculosis	1
Whooping cough	9

NEW JERSEY.

Cerebrospinal meningitis	2
Chicken pox	131
Diphtheria	158
Influenza	4
Measles	238
Pneumonia	63
Poliomyelitis	2
Scarlet fever	164
Smallpox	6
Trachoma	1
Typhoid fever	8
Whooping cough	245

NEW MEXICO.

Chicken pox	8
Diphtheria	10
Measles	24
Mumps	8
Scarlet fever	4
Smallpox	2
Trachoma	2
Tuberculosis	14
Typhoid fever	2
Whooping cough	13

NEW YORK.

(Exclusive of New York City.)

Diphtheria	197
Influenza	5
Lethargic encephalitis	2
Measles	870
Pneumonia	131
Scarlet fever	208
Smallpox:	
Georgetown	23
Scattering	11
Typhoid fever	20
Whooping cough	377

NORTH CAROLINA.

	Cases.
Chicken pox	39
Diphtheria	13
German measles	2
Measles	197
Scarlet fever	19
Septic sore throat	3
Smallpox	45
Typhoid fever	61
Whooping cough	247

SOUTH DAKOTA.

Chicken pox	4
Diphtheria	6
Measles	46
Pneumonia	1
Scarlet fever	17
Smallpox	37
Trachoma	1
Whooping cough	1

TEXAS.

Chicken pox	155
Diphtheria	26
Measles	101
Mumps	14
Scarlet fever	23
Smallpox	104
Typhoid fever	37
Whooping cough	107

VERMONT.

Chicken pox	38
Diphtheria	4
Measles	68
Mumps	16
Pneumonia	4
Smallpox	3
Scarlet fever	19
Whooping cough	34

WASHINGTON.

Chicken pox	48
Diphtheria	16

WASHINGTON—continued.

	Cases.
Measles	90
Mumps	7
Scarlet fever	29
Smallpox	75
Tuberculosis	5
Typhoid fever	5
Whooping cough	46

WEST VIRGINIA.

Diphtheria	7
Measles:	
Huntington	9
Scattering	27
Scarlet fever	13
Smallpox	6
Typhoid fever	2

WISCONSIN.

Milwaukee:	
Cerebrospinal meningitis	1
Chicken pox	64
Diphtheria	15
German measles	1
Measles	10
Scarlet fever	27
Smallpox	7
Tuberculosis	16
Whooping cough	31
Scattering:	
Cerebrospinal meningitis	2
Chicken pox	105
Diphtheria	27
Influenza	4
Lethargic encephalitis:	
Dane County—De Forest	1
Measles	90
Scarlet fever	83
Smallpox	102
Tuberculosis	12
Typhoid fever	7
Whooping cough	83

Reports for Week Ended June 4, 1921.

DISTRICT OF COLUMBIA.

	Cases.
Chicken pox	9
Diphtheria	12
Influenza	2
Measles	110
Scarlet fever	8
Tuberculosis	22
Typhoid fever	1
Whooping cough	19

KENTUCKY.

Chicken pox	15
Diphtheria	16
Dysentery	9
German measles	1
Lethargic encephalitis—Jefferson County	2
Measles:	
Campbell County	15
Jefferson County	27

KENTUCKY—continued

Measles—Continued.	Cases.
Whitley County	28
Scattering	17
Mumps	13
Pellagra	2
Pneumonia	12
Scarlet fever	18
Smallpox:	
Boyle County	14
Muhlenberg County	10
Pike County	10
Whitley County	20
Scattering	15
Trachoma	6
Tuberculosis:	
Jefferson County	12
Scattering	9
Typhoid fever	13
Whooping cough	9

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Poliomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
1921.										
Arizona (April)	.....	5	1	.....	140	.....	.....	22	35	1
Arizona (May)	.....	7	.....	.....	170	.....	.....	17	26	1
Florida (May)	1	22	1	67	104	8	1	3	178	56
Massachusetts (May)	14	649	54	.....	2,449	2	6	650	.....	168
Montana (April)	.....	27	11	.....	297	.....	.....	46	194	9
Nebraska (May)	.....	90	46	.....	167	.....	.....	166	384	17
Vermont (May)	.....	18	1	.....	135	.....	1	89	24	12

RECIPROCAL NOTIFICATION.

Connecticut—May, 1921.

Cases of communicable diseases referred during May, 1921, to other State health departments by department of health of the State of Connecticut.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Diphtheria:		
Hartford, Conn.	State department of health, Albany, N. Y.	Person arriving in Hartford, Conn., was found to be a diphtheria carrier two days after arrival from New York City, infecting one member of the family where she was visiting.
Measles:		
Pomfret, Conn.	State board of health, Providence, R. I.	Patient apparently infected with measles in Providence, R. I., became ill with the disease on his arrival home in Pomfret, Conn.
Typhoid fever:		
Greenwich, Conn.	State department of health, Albany, N. Y.	Patient ill with typhoid fever was brought to the hospital in Greenwich for treatment from Port Chester, N. Y.
Tuberculosis:		
Salisbury, Conn.	Massachusetts department of public health, Boston, Mass.	Patient arrived in Salisbury, Conn., from Northampton, Mass. in March, 1921.
Norwalk, Conn.	State department of health, Albany, N. Y.	Patient arrived in Norwalk, Conn., ill with tuberculosis from her home in Monticello, N. Y.

PLAGUE.[1]

HUMAN CASES OF PLAGUE REPORTED.

Place.	Period covered.	Cases.	Deaths.	Remarks.
California:	1921.			
San Benito County	Feb. 7		1	
	June 11	1	0	

[1] A summary of the reports received of the occurrence of plague and the finding of plague-infected rodents in the United States during 1920 was published in Public Health Reports, Jan. 7, 1921, p. 15.

PLAGUE-INFECTED RODENTS.

Place.	Period covered.	Rodents found plague infected.
California:	1921.	
San Benito County	May 15 to 28	[1]4
	May 28 to June 4	[1]4
Florida:		
Pensacola	Jan. 1 to Apr. 18	5
	Apr. 19 to June 11	0
Louisiana:		
New Orleans	Jan. 1 to May 26	38
	May 27 to June 11	0
Texas:		
Galveston	Jan. 1 to May 28	1
	May 29 to June 11	0

[1] Ground squirrels, *Citellus beecheyi*.

TYPHUS FEVER.

Paterson, N. J.

One case of typhus fever was reported at Paterson, N. J., during the week ended May 14, 1921.

CITY REPORTS FOR WEEK ENDED MAY 28, 1921.

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended May 28, 1921.	
		Cases.	Deaths.
Alabama:			
Birmingham	0	.....	1
Colorado:			
Trinidad	.....	1	.....
Connecticut:			
New Britain	0	1	.....
Georgia:			
Valdosta	.....	1	1
Illinois:			
Jacksonville	.....	.....	1
Kewanee	0	.....	1
Maryland:			
Baltimore	1	1	.....
Massachusetts:			
Lowell	0	1	1
Michigan:			
Detroit	1	.....	1
Missouri:			
St. Louis	3	2	.....
Montana:			
Missoula	0	.....	1
New Jersey:			
Clifton	.....	.....	1
New York:			
Elmira	0	.....	1
New York	11	4	.....
North Carolina:			
Durham	0	.....	1
Ohio:			
Cleveland	1	1	.....
Oregon:			
Portland	0	2	.....
Pennsylvania:			
Coatesville	.....	1	.....
Philadelphia	2	1	.....
Pittsburgh	0	1	.....
York	0	1	.....
Virginia:			
Portsmouth	0	1	.....

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

DIPHTHERIA.

See p. 1412; also Telegraphic weekly reports from States, p. 1401, and Monthly summaries by States, p. 1405.

INFLUENZA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:			Michigan:		
Long Beach	1		Detroit	2	
San Francisco	3	2	Kalamazoo		1
Connecticut:			New Jersey:		
Greenwich	3		Newark	4	
Hartford		1	Trenton		1
New Britain	1		New York:		
Illinois:			New York	23	6
Chicago	13		Ohio:		
Kansas:			Cincinnati		3
Coffeyville	1	1	Cleveland	1	
Maryland:			Pennsylvania:		
Baltimore	1		Philadelphia	3	
Massachusetts:			South Carolina:		
Cambridge	1		Charleston		2
Fall River		1	Virginia:		
Haverhill	1		Richmond		2
Quincy	1				
Saugus	1				

LEPROSY.

California:			Louisiana:		
San Francisco	1		New Orleans	1	

LETHARGIC ENCEPHALITIS.

New Jersey:					
Jersey City	1				

MALARIA.

Alabama:			Louisiana:		
Birmingham	1	1	Alexandria	19	
Montgomery	2		New Jersey:		
Arkansas:			Bloomfield	1	
North Little Rock	1		New York:		
Georgia:			New York		1
Brunswick	14		Ohio:		
Savannah	1		Findlay	1	
Valdosta	4		South Carolina:		
Illinois:			Charleston		1
Chicago	1		Texas:		
Iowa:			Dallas	11	
Sioux City	1		Waco		1

MEASLES.

See p. 1412; also Telegraphic weekly reports from States, p. 1401, and Monthly summaries by States, p. 1405.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			North Carolina:		
Birmingham		2	Winston-Salem	1	1
Georgia:			South Carolina:		
Brunswick	1	1	Charleston		1
Macon	1		Texas:		
Louisiana:			Beaumont	1	
New Orleans	1	1	Dallas	1	1
New York:			Virginia:		
New York		2	Richmond		1

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

PNEUMONIA (ALL FORMS).

City.	Cases.	Deaths.
Alabama:		
Anniston	1	
Birmingham		4
Montgomery		1
Arizona:		
Tucson		2
Arkansas:		
Little Rock	1	
California:		
Long Beach		2
Oakland		3
Sacramento		2
San Diego	4	3
San Francisco	11	2
Santa Barbara		2
Colorado:		
Denver		10
Pueblo	1	
Connecticut:		
Bridgeport	1	
Manchester	2	
Meriden	2	
New Britain		1
New Haven		1
Norwalk		1
Waterbury	2	1
Delaware:		
Wilmington		3
District of Columbia:		
Washington		11
Georgia:		
Atlanta		5
Illinois:		
Alton	1	
Aurora		1
Chicago	153	37
Cicero		2
East St. Louis		3
Galesburg		2
Jacksonville		1
Oak Park	4	2
Rockford		1
Springfield		1
Indiana:		
Elkhart		1
Gary		2
Indianapolis		4
Kokomo		1
La Fayette		1
South Bend		1
Terre Haute		2
Kansas:		
Topeka	2	
Wichita		2
Kentucky:		
Covington		1
Lexington		1
Louisville		7
Louisiana:		
New Orleans		9
Maine:		
Lewiston		1
Maryland:		
Baltimore	39	15
Cumberland	2	
Massachusetts:		
Attleboro	1	
Boston	27	20
Braintree		2
Brookline	1	
Cambridge	3	1
Chelsea	2	
Clinton		1
Everett		1
Fall River	4	2
Haverhill	5	1
Holyoke	3	
Lawrence	2	1
Lowell		1
Lynn	3	1
Massachusetts—Continued.		
Methuen		1
New Bedford		2
Newton		1
North Adams	2	
Peabody	1	
Pittsfield		1
Saugus		1
Somerville		2
Springfield		3
Westfield	1	
Woburn		1
Worcester	3	7
Michigan:		
Ann Arbor	4	
Battle Creek	1	
Detroit	50	18
Flint	3	2
Grand Rapids	7	4
Highland Park	2	1
Kalamazoo		2
Marquette		1
Pontiac		2
Port Huron	1	
Sault Ste. Marie	2	
Minnesota:		
Austin		2
Duluth	1	
Rochester		1
St. Paul		5
Missouri:		
Kansas City	8	4
St. Joseph		2
Springfield		1
Montana:		
Butte		1
Missoula		2
Nebraska:		
Lincoln		1
Omaha		4
New Hampshire:		
Berlin		1
Keene		1
New Jersey:		
Atlantic City	3	1
Belleville	2	
Bloomfield	2	
Elizabeth		2
Garfield	3	
Hackensack		2
Hoboken		3
Irvington	1	
Jersey City	3	
Kearny		2
Newark	77	10
Orange	2	
Passaic		1
Paterson	3	
Phillipsburg		1
Summit		1
Trenton		3
West Orange	2	
New Mexico:		
Albuquerque		2
New York:		
Albany	2	
Buffalo	8	7
Cohoes	2	1
Elmira	3	1
Ithaca		2
Lackawanna	5	
Middletown	1	
Mount Vernon	6	1
Newburgh		2
New York	214	108
Niagara Falls		1
Olean		2
Peekskill	2	
Plattsburgh		1
Poughkeepsie		2

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.
New York—Continued.		
Rochester	11	3
Rome	1	...
Saratoga Springs	1	...
Schenectady	...	2
Syracuse	7	3
Troy	...	3
White Plains	2	1
Yonkers	4	3
North Carolina:		
Charlotte	...	2
Winston-Salem	...	1
Ohio:		
Akron	3	...
Barberton	5	...
Bucyrus	1	...
Canton	...	1
Cincinnati	...	10
Cleveland	18	...
Cleveland Heights	1	...
Columbus	...	5
Cuyahoga Falls	...	1
Dayton	2	...
Kenmore	1	...
Mansfield	...	1
Newark	...	1
Niles	1	...
Ohio—Continued.		
Toledo	...	1
Youngstown	...	3
Oregon:		
Portland	...	2
Salem	...	1
Rhode Island:		
Providence	...	6
South Carolina:		
Charleston	...	2
Tennessee:		
Nashville	...	2
Texas:		
Dallas	2	1
El Paso	...	5
Fort Worth	...	2
Galveston	...	2
Utah:		
Salt Lake City	...	2
Virginia:		
Portsmouth	...	2
Richmond	...	5
West Virginia:		
Charleston	...	4
Wheeling	...	2
Wisconsin:		
Superior	...	2

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended May 28, 1921.	
		Cases.	Deaths.
Illinois:			
East St. Louis	0	...	1
Indiana:			
Kokomo	0	...	1
Massachusetts:			
Cambridge	0	1	...
Southbridge	0	1	...
Minnesota:			
St. Paul	0	1	...
Montana:			
Great Falls	...	1	...

RABIES IN ANIMALS.

City.	Cases.
Ohio:	
Ironton	1

RABIES IN MAN.

City.	Cases.	Deaths.
California:		
Sacramento	1	1

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

SCARLET FEVER.

See p. 1412; also Telegraphic weekly reports from States, p. 1401, and Monthly summaries by States, p. 1405.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended May 28, 1921.	
		Cases.	Deaths.
Alabama:			
Anniston	0	1	.....
Birmingham	3	12	.....
Mobile	1	5	.....
Montgomery	1	4	.....
California:			
Oakland	0	2	.....
Richmond	.....	1	.....
Riverside	0	3	.....
Sacramento	0	1	.....
San Diego	0	6	.....
San Francisco	0	10	1
Colorado:			
Pueblo	2	1	.....
District of Columbia:			
Washington	1	6	.....
Georgia:			
Atlanta	10	13	.....
Brunswick	0	1	.....
Macon	1	7	.....
Idaho:			
Boise	1	3	.....
Illinois:			
Bloomington	0	3	.....
Kewanee	5	1	.....
Mattoon	0	2	.....
Pekin	6	1	.....
Rockford	0	8	.....
Rock Island	2	1	.....
Springfield	1	1	.....
Indiana:			
Bloomington	0	4	.....
Crawfordsville	.....	3	.....
Elkhart	0	10	.....
Gary	2	7	.....
Indianapolis	18	18	.....
La Fayette	0	1	.....
Logansport	6	1	.....
Marion	1	7	.....
Mishawaka	2	2	.....
South Bend	0	6	.....
Terre Haute	1	6	.....
Iowa:			
Burlington	0	2	.....
Cedar Rapids	6	2	.....
Clinton	0	1	.....
Davenport	7	1	.....
Des Moines	9	4	.....
Mason City	0	1	.....
Muscatine	0	3	.....
Sioux City	2	7	.....
Kansas:			
Fort Scott	2	3	.....
Hutchinson	1	10	.....
Kansas City	4	10	.....
Parsons	2	5	.....
Salina	.....	3	.....
Topeka	4	14	.....
Wichita	5	5	.....
Kentucky:			
Covington	0	6	.....
Louisiana:			
New Orleans	3	6	1
Michigan:			
Battle Creek	0	1	.....
Benton Harbor	1	3	.....
Detroit	6	10	.....
Flint	2	1	.....
Highland Park	2	1	.....
Kalamazoo	1	3	.....
Pontiac	1	1	.....
Sault Ste. Marie	0	5	.....
Minnesota:			
Duluth	1	11	.....
Austin	.....	2	.....
Mankato	0	7	.....
St. Paul	6	50	1
Missouri:			
Cape Girardeau	2	2	.....
Kansas City	13	22	.....
St. Louis	9	11	.....
Montana:			
Billings	0	1	.....
Great Falls	5	6	.....
Missoula	0	4	.....
Nebraska:			
Lincoln	6	2	.....
Omaha	8	9	.....
Nevada:			
Reno	4	4	.....
New Jersey:			
Newark	0	4	.....
West New York	.....	1	.....
North Tonawanda	.....	10	.....
North Carolina:			
Charlotte	0	1	.....
Durham	0	1	.....
Winston-Salem	2	10	.....
North Dakota:			
Fargo	0	3	.....
Ohio:			
Akron	12	2	.....
Canton	1	2	.....
Cincinnati	4	2	.....
Cleveland	6	3	.....
Columbus	1	5	.....
Coshocton	0	1	.....
Hamilton	.....	6	.....
Lancaster	0	4	.....
Lima	0	3	.....
Newark	0	49	.....
Springfield	0	1	.....
Toledo	1	14	.....
Oklahoma:			
Oklahoma City	14	6	.....
Oregon:			
Portland	2	7	.....
Pennsylvania:			
Jeannette	.....	1	.....
South Carolina:			
Charleston	0	16	.....
Columbia	0	1	.....
South Dakota:			
Sioux Falls	1	1	.....

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

SMALLPOX—Continued.

City.	Median for previous years.	Week ended May 28, 1921.		City.	Median for previous years.	Week ended May 28, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Tennessee:				Washington:			
Chattanooga	5	1	.....	Aberdeen	19	2	.....
Knoxville	2	5	.....	Bellingham	0	2	.....
Nashville	0	2	.....	Everett	2	2	.....
Texas:				Seattle	7	9	.....
Dallas	4	3	.....	Spokane	2	32	.....
El Paso	0	2	.....	Tacoma	1	4	.....
Fort Worth	8	7	.....	Vancouver	0	8	.....
Waco	0	2	.....	Wisconsin:			
Utah:				Madison	1	7	.....
Salt Lake City	4	13	.....	Marinette	0	1	.....
Virginia:				Milwaukee	6	8	.....
Lynchburg	0	1	.....	Sheboygan	0	2	.....
Richmond	0	1	.....	Superior	2	1	.....

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			New York:		
Mobile	.....	2	New York	1	.....
California:			South Carolina:		
Riverside	1	.....	Charleston	.....	1
Louisiana:			Texas:		
Alexandria	.....	1	Galveston	.....	1
New Orleans	.....	1	Virginia:		
Maryland:			Richmond	.....	1
Baltimore	.....	1			
Missouri:					
Springfield	.....	1			

TUBERCULOSIS.

See p. 1412; also Telegraphic weekly reports from States, p. 1401.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended May 28, 1921.		City.	Median for previous years.	Week ended May 28, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Illinois:			
Anniston	0	1	.....	Decatur	0	2	1
Birmingham	2	5	.....	Mattoon	0	1	.....
Mobile	1	1	.....	Rockford	0	1	.....
Montgomery	0	1	.....	Indiana:			
Arkansas:				Huntington	0	1	.....
Little Rock	0	1	.....	Indianapolis	2	2	.....
California:				Kansas:			
San Francisco	0	6	.....	Parsons	0	1	.....
Santa Barbara	0	1	.....	Kentucky:			
Connecticut:				Louisville	2	1	.....
Hartford	0	21	.....	Louisiana:			
New Haven	1	1	.....	Alexandria	0	1	.....
Waterbury	0	2	.....	New Orleans	4	2	2
District of Columbia:				Maine:			
Washington	4	2	.....	Portland	1	2	.....
Georgia:				Maryland:			
Atlanta	0	2	.....	Baltimore	4	3	1
Macon	1	1	.....	Massachusetts:			
Savannah	1	1	.....	Arlington	0	1	.....

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

TYPHOID FEVER—Continued.

City.	Median for previous years.	Week ended May 28, 1921.	
		Cases.	Deaths.
Massachusetts—Contd.			
Beverly	0	1	
Boston	4	1	1
Fall River	2	1	
Lowell	0	1	
Somerville	0	1	
Waltham	0	54	1
Worcester	0	1	
Michigan:			
Alpena	2	2	1
Detroit	3	1	
Flint	0	2	
Missouri:			
Kansas City	1	2	
St. Louis	4	2	1
Nebraska:			
Lincoln	0	1	
New Hampshire:			
Concord	0	1	
New Jersey:			
Trenton	1	1	
New York:			
Glens Falls	0	1	
Jamestown	0	1	
Mount Vernon	0	1	
New York	9	12	2
Rochester	0	1	1
Troy	0	1	1
Yonkers	0	1	
North Carolina:			
Durham	0	2	
Wilmington	0	2	
Ohio:			
Canton	0	1	
Cleveland	2	1	
Dayton	0	2	
Fremont	0	1	
Toledo	1	1	
Oklahoma:			
Oklahoma City	0	1	
Pennsylvania:			
Bethlehem	0	1	
Bradford	0	1	
Reading	1	1	
Swissvale		1	
Washington	0	6	
Williamsport	0	2	
York	0	1	
Rhode Island:			
Providence	0		1
South Carolina:			
Charleston	2	1	
Columbia	2	1	
Tennessee:			
Knoxville	1	2	1
Nashville	1	1	
Texas:			
Corpus Christi	0	1	
Dallas	1	1	
Galveston	2	1	
Waco	1	1	
Virginia:			
Petersburg	0	1	
Portsmouth	0	1	
Richmond	0	1	
Washington:			
Seattle	0	3	
Spokane	0	2	
Wisconsin:			
Marinette	0	1	
Racine	0		1
Sheboygan	0	9	

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston	17,734		1						5	
Birmingham	178,270	59			20	1			2	10
Mobile	60,151	20	1		1	1			1	2
Montgomery	43,464	7	1				1			
Tuscaloosa	11,996		1							
Arizona:										
Tucson	20,292	17								9
Arkansas:										
Fort Smith	28,811		1		1		1			
Hot Springs	11,695	5								
Little Rock	64,997				9		1		1	
North Little Rock	14,048				7					
California:										
Alameda	28,806	6	1				1		1	
Eureka	12,923	4			3				2	1
Long Beach	55,593	14	2		6					
Oakland	216,361	45	9	1	2		8		5	3
Pasadena	45,354	11	5	1	11				5	1
Richmond	16,843	3					1			
Riverside	19,341	7	1							
Sacramento	65,857	23	5	1	1		2		2	1

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
California—Continued.										
San Bernardino	18,721	5			1					1
San Diego	74,683	25	2		78		1		2	3
San Francisco	508,410	144	37	4	18		19		15	7
Santa Barbara	19,441	8					3			
Stockton	40,296	11	3				2	1	1	
Vallejo	21,107	3					2			
Colorado:										
Denver	256,369	82	10		16		10			11
Greeley	10,883	1								
Pueblo	42,908	11	1		3		7			2
Trinidad	10,906						2			
Connecticut:										
Bridgeport	143,538	37	7	1	2	1	15	1	7	6
Danbury (city)	18,943	6	1		8					
Derby	11,238	3					1			1
Fairfield (town)	11,475	0			1					
Greenwich (town)	22,123				5		1			
Hartford	138,036	39	5	1	14	1	3	1		4
Manchester (town)	18,370	2			3					
Meriden (city)	29,842	1					1		2	
Milford (town)	10,193								1	
New Britain	59,316	13	5		8					
New Haven	162,519	38	5				2		3	2
Norwalk	27,700	6	1	1					2	1
Norwich (town)	29,685	4	2				1		1	
Waterbury	91,410	16	1		4		3		5	
Delaware:										
Wilmington	110,168	23	1				12			3
District of Columbia:										
Washington	437,571	111	10		143		8		21	15
Georgia:										
Atlanta	200,616	52	2		3	2	10			4
Brunswick	14,413	1								
La Grange	17,038		1							
Macon	52,995	11	1	1						
Savannah	83,252	39							2	10
Valdosta	10,783	5							1	1
Idaho:										
Boise	21,393	5	2		3		10			
Illinois:										
Alton	24,682	3			4					
Aurora	36,397	20	1	1	9					2
Bloomington	28,725	15					4		3	1
Blue Island	11,424	4			1		1			
Centralia	12,491	2	1							
Chicago	2,701,705	682	166	18	377	4	107	4	205	37
Cicero	44,995	13	5		10		2			1
Danville	33,750	7					2			
Decatur	43,818	9			6		12			1
East St. Louis	66,740	15			6		6			
Elgin	27,454	6			2					
Evanston	37,215	6	1		3					
Forest Park	10,768	4			2					
Freeport	19,669	3	4							
Galesburg	23,834	8			15		3		1	1
Jacksonville	15,713	10								
Kewanee	16,026	1	1		1		1			
La Salle	13,050	1	2		4		1			
Mattoon	13,552	2			1					
Oak Park	39,830	12	2		63		4		1	
Pekin	12,083		1				5			
Quincy	35,978	7			1					1
Rockford	65,651	18	1		27		6	1		
Rock Island	35,177	3	1		6		3			
Springfield	59,183	18			6		5			1
Indiana:										
Bloomington	11,595	2							1	1
Crawfordsville	10,139	2					2			
East Chicago	35,967	8								1
Elkhart	24,277	9					2			2
Elwood	10,790	4								
Evansville	85,264	20	3		6					
Frankfort	11,585	2								

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Indiana—Continued.										
Gary	55,378	13			3	1	2			
Huntington	14,000	2	3		1		1			
Indianapolis	314,194	81	2	1	2		30		6	8
Kokomo	30,067	9					1		4	2
La Fayette	22,486	6	1		1				1	
Logansport	21,626	5								
Marion	23,747	4	3				2			
Mishawaka	15,195	1	3	1	3					
Richmond	26,765	6	1				1			
South Bend	70,983	12	1		1		2			3
Terre Haute	66,083	22	5				7			2
Iowa:										
Burlington	24,057						1			
Council Bluffs	36,162	10	2				2			
Davenport	56,727						3			
Des Moines	126,468		2				3			
Iowa City	11,267				6					
Mason City	20,065	0					2			
Muscatine	16,068	6			2		1		1	1
Sioux City	71,227		1							
Kansas:										
Arkansas City	11,253	4	1		7		1			
Atchison	12,630				2				1	
Coffeyville	13,452	2							1	
Fort Scott	10,693	4	5							
Hutchinson	23,298		1		4				5	
Kansas City	101,177		2		18		2		15	
Lawrence	12,456	2			1					
Leavenworth	16,912				5					
Parsons	16,028	3	1				1			
Salina	15,085	3					5			
Topeka	50,022	8			1				3	
Wichita	72,128	32			72		7			
Kentucky:										
Covington	57,121	21			1		2			1
Lexington	41,534	23			4		3			5
Louisville	234,891	79	7		67		9		7	6
Louisiana:										
Alexandria	17,510	1	1				2			
Monroe	12,675	1							1	1
New Orleans	387,219	134	3				6		19	15
Maine:										
Auburn	16,985	5								1
Bangor	25,978						2		1	
Bath	14,731	0								
Lewiston	31,791	13			2				9	1
Portland	69,272	12	2				1			1
Waterville	13,351				13					
Maryland:										
Baltimore	733,826	192	25	2	144	1	18		31	22
Cumberland	29,837	4	3				1		1	
Massachusetts:										
Adams	12,967	1								
Amesbury	10,036	4								
Arlington	18,665	5			4					
Belmont	10,749	3								
Beverly	22,561	3							1	
Boston	748,060	213	76	3	87		32	2	80	20
Braintree	10,589	3	2		4					
Brookline	37,748	10			1		2			
Cambridge	109,694	39	9		54		4		1	5
Chelsea	43,184	12			5		4			
Chicopee	36,214	9								2
Clinton	12,979	3			2					1
Danvers	11,108		1				1		1	
Dedham	10,792	1								
Everett	40,120	9	4				8	1	1	1
Fall River	120,485	26	1		8				7	2
Greenfield	15,462	4							1	
Haverhill	53,884	10	4		2		5		4	
Holyoke	60,203	7			1		1		3	2
Lawrence	94,270	21			2		2		7	4
Leominster	19,744	6	2		2					

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Massachusetts—Continued.										
Lowell	112,479	21	5		1		3		4	1
Lynn	99,148	21	6	1	10		3			1
Medford	39,038	11	1		33					1
Melrose	18,204	6					1			1
Methuen	15,189	6					1			
New Bedford	121,217	27					4		3	3
Newburyport	15,618	5	1		1					
Newton	46,054	11			1		3		2	
North Adams	22,282	10							1	1
Northampton	21,951	5			12				2	
Peabody	19,552						2		1	
Pittsfield	41,751	11					1	1		
Plymouth	13,045	7								1
Quincy	47,876	11	1	1	57				1	
Saugus	10,874	4	1							
Somerville	93,091	18	4		6		1		5	1
Southbridge	14,245	1			20					
Springfield	129,563	27	2	1	1		7		1	2
Wakefield	13,025	4			8	1	3			
Watertown	21,457	5	3		5		1		2	
West Springfield	13,443	5			7	1				
Westfield	18,604	4			1					1
Winthrop	15,455	4			6		1			1
Woburn	16,574	2								
Worcester	179,754		1		40		6			5
Michigan:										
Alpena	11,101	1								
Ann Arbor	19,516	10	2							1
Battle Creek	36,164		1							
Detroit	993,739	215	89	2	45		78	1	37	39
Flint	91,599	15	4		1		3			
Grand Rapids	137,634	47	7	1	1		3		8	3
Highland Park	46,499	7	4		3		6	1		
Ishpeming	10,500	1	1				1			
Kalamazoo	48,858	15	1				5		1	
Marquette	12,718	3								
Pontiac	34,273	11	1				1	1	2	1
Port Huron	25,944	8	1				2			
Sault Ste. Marie	12,096	4					1			
Minnesota:										
Austin	10,118	3								
Duluth	98,917	20	4		5		7		2	4
Hibbing	15,089		2		5					
Rochester	13,722	25			14		1	1	1	
St. Cloud	15,873		3							
St. Paul	234,595	55	10	1	8		23	1	4	2
Virginia	14,022		1							
Winona	19,143						5		1	
Missouri:										
Cape Girardeau	10,252	3			2		4			
Independence	11,686	5							1	1
Joplin	29,855				1					
Kansas City	324,410	80	8	2	38		5	1	1	7
Saint Joseph	77,939	39						1		1
Saint Louis	772,897	208	43	4	10		78	3	48	15
Springfield	39,631	10								
Montana:										
Anaconda	11,668								1	
Billings	15,100	4	1		1		2			
Butte	41,611	9								
Great Falls	24,121	11			2		1			
Missoula	12,668	5			5					
Nebraska:										
Lincoln	54,934	7	1				2		1	
Omaha	191,601	58	10		16		7			3
Nevada:										
Reno	12,016	4								
New Hampshire:										
Berlin	16,104	3							2	
Concord	22,167	9					2			
Dover	13,029	5								
Keene	11,210	4			2		1			
Portsmouth	13,569				1					

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New Jersey:										
Asbury Park	12,400	5								
Atlantic City	50,682	10	3		4		8		1	1
Bayonne	76,754		4		1		9		1	
Belleville	15,660						2		1	
Bloomfield	22,019	7	1		1		3		1	1
Clifton	26,470	1	1						1	
Elizabeth	95,682		9	1	16		10		3	1
Garfield	19,381	3					4	1	1	
Gloucester City	12,162				5					
Hackensack	17,667	5	2		1		6			
Harrison	15,721		1				2			
Hoboken	68,166	18	5		2		2			3
Irvington	25,480				3		5			
Jersey City	297,864		31		25		9		9	
Kearny	26,724	5	2		5		3		1	
Montclair	28,810	6	2		1		2		1	1
Morristown	12,548	4	1		2		2	1		1
New Brunswick	32,779		7							
Newark	414,216	75	31		23		45		47	6
Orange	33,268	8	2		41	1	5		2	
Passaic	63,824	13	4				1		3	1
Paterson	135,866		5		2				9	
Perth Amboy	41,707	8	2						2	
Phillipsburg	16,923	3								
Plainfield	27,700	4	4				9			
Rahway	11,042	1					1			
Summit	10,174	2					1		1	1
Trenton	119,289	41	3		29		6		3	5
West New York	29,926	2	2		3				1	
West Orange	15,573	3			15		2		2	
New Mexico:										
Albuquerque	15,157	11	4						4	2
New York:										
Albany	113,344		4		37		2		6	
Buffalo	506,775	121	51	1	46		31	1	22	11
Cohoes	22,987	9	1		2				1	
Elmira	45,305		1		2					1
Geneva	14,648	3								
Glens Falls	16,638	3							1	
Ithaca	17,004	8	1							
Jamestown	38,917	12			66				4	1
Lackawanna	17,918	1	5				2			
Lockport	21,308	5	3		3		3			
Mount Vernon	42,723	7	6		2		19		1	
Newburgh	30,366	7								1
New York	5,621,151	1,216	357	16	305	6	309	7	[1] 246	[1] 114
Niagara Falls	50,760	10	5	1			14		2	
North Tonawanda	15,482	6	2	3	9					
Ogdensburg	14,609	7								
Olean	20,503	11								
Peekskill	15,868	2								
Plattsburg	10,909	6								
Port Chester	16,573	4	1		25		1		1	
Poughkeepsie	35,000	8							2	
Rochester	295,750	52	19	3	2		9		9	5
Rome	26,341		4		1					
Saratoga Springs	13,181	6								1
Schenectady	88,723	22	6		8	1	3		1	
Syracuse	171,717	39	8		62	1	10	1	3	2
Troy	72,013	23					3		6	
White Plains	21,031	5			1		1			
Yonkers	100,223	23	6		7		9			1
North Carolina:										
Charlotte	46,338	15			3		1		2	3
Durham	21,719	16								1
Greensboro	19,861	3								
Rocky Mount	12,742	3								
Salisbury	13,884	1								
Wilmington	33,372	8			3					
Winston-Salem	48,395	10	1		5				3	1

[1] Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
North Dakota:										
Fargo	21,961	4	2		3		1			
Grand Forks	14,010	0	3		5					
Ohio:										
Akron	208,435	16	11		8		4		19	
Alliance	21,603	7								
Barberton	18,811	4			1					
Bucyrus	10,425	3								
Canton	87,091	9	6		1		3			
Chillicothe	15,831	2					1			
Cincinnati	401,247	108	12		3		6		37	8
Cleveland	796,836		21		49		48		32	
Cleveland Heights	15,236		2							
Columbus	237,031	52	10		1		5		5	4
Cuyahoga Falls	10,200	2	2							
Dayton	152,559	35	2		1		4		2	
Findlay	17,021	2							1	
Fremont	12,468	2								
Hamilton	39,675	9					4			1
Ironton	14,007	6					2		1	
Kenmore	12,683		1		1		2			
Lancaster	14,706				3	1			1	1
Lima	41,306	7								
Lorain	37,295		2		38				1	
Mansfield	27,824	2								
Marion	27,891		1						1	
Middletown	23,594	3							1	1
Newark	26,718	12	1	1			1			1
Niles	13,080	1			5		1		1	
Norwood	24,966	5					2			
Piqua	15,044	3								
Salem	10,305	3								
Sandusky	22,897	8								
Springfield	60,840	15			1		11		1	
Steubenville	28,508	4							1	
Tiffin	14,375	8	2							1
Toledo	243,109	67	21	3	1		3			9
Youngstown	132,358		2		42		1		2	1
Zanesville	29,569	7								1
Oklahoma:										
Oklahoma City	91,258	12	1		1		1		2	
Oregon:										
Portland	258,288	71	13		42		5		10	5
Salem	17,679	7								1
Pennsylvania:										
Allentown	73,502		9		21		4			
Altoona	60,331		1		26		5			
Ambridge	12,730				2					
Beaver Falls	12,802				3		2			
Berwick	12,181		4		1		1			
Bethlehem	50,358		3		9		8			
Braddock	20,879		2				1		1	
Bradford	15,525				2		2			
Bristol	10,273						1			
Butler	23,778		3		46		3			
Carbondale	18,640		1				1			
Carlisle	10,916				1					
Carrick	10,504				1					
Chester	58,030						4		3	
Coatesville	14,515						1			
Connellsville	13,804				1		1			
Dickson City	11,049				2		1			
Donora	14,131				3		3			
Duquesne	19,011						3			
Easton	33,813		2		6		1		2	
Erie	93,372		12		45		8		4	
Farrell	15,586						3			
Harrisburg	75,917				31		4			
Hazelton	32,277		1		11		1			
Johnstown	67,327		2		10		1		1	
Lancaster	53,150		9		1		7		2	
McKeesport	45,975		2		1					
McKee's Rocks	16,713		2				1			

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Pennsylvania—Continued.										
Mahanoy City	15,599		1							
Meadville	14,568		1				6			
Monessen	18,179				8					
Mount Carmel	17,469								2	
Nanticoke	22,614		1				2			
New Castle	44,938				2		1		5	
Norristown	32,319		4				1			
North Braddock	14,928		5							
Olyphant	10,236								1	
Philadelphia	1,823,158	398	86	6	64		141		82	43
Phoenixville	10,484				1				1	
Pittsburgh	588,193		40		111		41		11	
Plymouth	16,500		1		1					
Pottstown	17,431		2		4				1	
Pottsville	21,876				16		2			
Reading	107,784		7		24		3		6	
Scranton	137,783		9		3		4			
Shamokin	21,204		1							
Sharon	21,747		1		6		1			
Sunbury	15,721		2				1			
Swissvale	10,908				3					
Tamaqua	12,363						1			
Uniontown	15,692						7			
Warren	14,256						1			
Washington	21,480		4							
Wilkes-Barre	73,833		1		2		5			
Williamsport	36,198		1				1			
York	47,512		5						1	
Rhode Island:										
Cranston	29,407	6			5					
East Providence (town)	21,793		1							
Newport	30,255	5					2			
Pawtucket	64,248	18	1							1
Providence	237,595	73	16		39	1	9	1		7
South Carolina:										
Charleston	67,957	27								1
Columbia	37,524		1		17				1	
South Dakota:										
Sioux Falls	25,176	7			2		1			
Tennessee:										
Chattanooga	57,895		2				2			
Knoxville	77,818				3				5	5
Nashville	118,342	29			28		6		1	
Texas:										
Beaumont	40,422	11			3					1
Corpus Christi	10,522	6			1				4	
Dallas	158,976	45	4		80		1		6	7
El Paso	77,543	55	1		3	1	5			12
Fort Worth	106,482		2		4		1		3	
Galveston	44,255	15	3							
Waco	38,500	10	1				1			
Utah:										
Salt Lake City	118,110	38	10	2	2		5			3
Vermont:										
Barre	10,008						3			
Burlington	22,779	2	2				1			
Rutland	14,954	5	1				1			
Virginia:										
Alexandria	18,060	3			1					1
Danville	21,539	6					1			
Lynchburg	29,956	4			33		3		1	
Petersburg	31,002	8			20				4	
Portsmouth	54,387	15	1		2		2		1	
Richmond	171,667	46	1		46		4		6	3
Roanoke	50,842	14	1		2				2	2
Washington:										
Bellingham	25,570				3					
Everett	27,644				8					
Seattle	315,652		4		6		9			
Spokane	104,437		1		19		2			
Tacoma	96,965		1		6		1			
Vancouver	12,637						2			
Yakima	18,539				4					

CITY REPORTS FOR WEEK ENDED MAY 28, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
West Virginia:										
Bluefield	15,282				4					
Charleston	39,608	18	2				3			4
Huntington	50,177	17								
Parkersburg	20,050	5	1							
Wheeling	54,322	15	1		3		3		1	1
Wisconsin:										
Appleton	19,561		2				2			
Beloit	21,284	3			1				2	1
Eu Claire	20,880						1			
Fond du Lac	23,427	5	5	2						
Green Bay	31,017	5	5		3		1			
Janesville	18,293	1	1				2			
Kenosha	40,472	8	6		1		1			
Madison	38,378	7			2		6		1	
Marinette	13,610		1		3					
Milwaukee	457,147		19		14		26		12	
Oshkosh	33,162	10								1
Racine	58,593	15	4				7			
Sheboygan	30,955						1			
Superior	39,624	7	3				2			
Wausau	18,661						1		2	
Wyoming:										
Cheyenne	13,829	0					1			

FOREIGN AND INSULAR.

CANADA.

Measles—London—Sarnia.

Measles in epidemic form was reported present at London, Canada, May 21, and at Sarnia, Canada, May 28, 1921.

Recurrent Malaria—Regina.

A case of recurrent malaria was reported during the week ended May 14, 1921, at Regina, Saskatchewan, Canada. The case occurred in a boy of 17 years who is stated to belong to a family of Belgians at one time resident in Africa, where they were all at different times attacked by the disease.

CHILE.

Measles—Smallpox—Tacna Province.

On April 23, 1921, measles in epidemic form was reported at Tacna, Tacna Province, Chile, occurring among troops. On the same date smallpox was reported present.

Smallpox—Antofagasta Province.

During the period April 11 to May 15, 1921, smallpox was reported present in Antofagasta Province as follows: Antofagasta, 163 cases with 46 deaths; present at Calama, Mejillones, Ollague, and outlying nitrate plants.

CHINA.

Plague—Statement for Chihli Province.

On May 2, 1921, plague conditions in Chihli Province, China, were stated as follows:

Chiao-ho district, no new case since April 5, 1921.

Hsien-shien district, no new case since April 20, 1921; total reported cases, 48.

Tsin-chien district, five villages infected in April, 1921; 35 cases isolated April 28; two deaths, April 29, 1921.

Hokien district, about 100 deaths from plague in April, 1921.

Tachang district, present in a few river villages.

Wennan district, in one village 42 deaths from plague in April.

The epidemic was stated to have spread along the course of the Chi-ai ho River.

JAPAN.

Epidemic Smallpox—Nagasaki.

Smallpox was stated, April 28, 1921, to be present in epidemic form at Nagasaki, Japan, with 25 cases, of which three terminated fatally, notified from March 28 to April 24, 1921.

MADAGASCAR.

Plague—Tamatave.[1]

Epidemic plague was officially declared present at Tamatave, Madagascar, March 8, 1921. To March 26, 1921, a total of 75 cases with 46 deaths was reported. The origin of the outbreak was stated, March 28, not to have been determined. Several cases were stated to have occurred in buildings in which plague cases occurred during the epidemic of 1898.

MOROCCO.

Typhus Fever—Casa Blanca.

Typhus fever was reported present at Casa Blanca, Morocco, June 10, 1921, with 59 cases and three deaths.

PORTO RICO.

Status of Plague.

During the week ended May 24, 1921, the finding of one plague-infected rat was reported at San Juan. The rat was taken May 16, 1921. The total number of plague-infected rats found since the beginning of the outbreak is 80, distributed according to locality as follows:

Place.	Number of rats found infected.
San Juan	43
Puerta de Tierra	9
Santurce	21
Carolina	1
Guaynabo	1
Rio de Piedras	5
Total	80

The total number of human cases of plague reported since the beginning of the outbreak is 22, distributed as follows:

Place.	Number of cases.
San Juan	6
Caguas	2
Santurce	2
Bayamon	1
Carolina	4
Puerta de Tierra	4
Dorado	1
Isabela	1
Manati	1

[1] Public Health Reports, Mar. 25, 1921, p. 630.

SENEGAL.

Rodent Plague—Dakar.

Rodent plague was reported present at Dakar, Senegal, June 11, 1921.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER.

Reports Received During Week Ended June 17, 1921.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Calcutta	Apr. 24-30	84	79	
Madras	do	1		
Rangoon	Apr. 3-16	10	9	

PLAGUE.

British East Africa:				
Kenya Colony—				
Kisumu	Apr. 3-9	4	3	
Uganda	Dec. 1-31	35	27	
China:				
Amoy	Apr. 10-23		3	
Chihli Province				In April, 1921: Six districts infected.
Hokien district	Apr. 30		100	Estimated.
Hsien-shien				In April, 1921, 48 cases.
Tachang district				April, 1921, present in a few river villages.
Tsin-chien district	Apr. 28-29	35	2	
Wennan district				In April, 1921, 42 deaths.
Manchuria:				
Changchun	To Apr. 20	42		
Kirin	do	19		
Koupangtzu	do	18		
Mukden	do	3		
Egypt				Jan. 1-May 19, 1921: Cases, 115; deaths, 53.
Cities—				
Alexandria	May 9	2		
India				Apr. 10-16, 1921: Cases, 1,457; deaths, 1,225.
Bombay	Apr. 10-16	112	85	
Calcutta	Apr. 24-30	5	5	
Karachi	do	5	4	
Madras Presidency	Apr. 17-30	60	40	
Rangoon	Apr. 3-16	53	48	
Madagascar:				
Tamatave	Mar. 8-26	75	46	
Mesopotamia:				
Bagdad	Mar. 1-31	4	2	
Persia:				
Kermanchah	Jan. 4			Present in vicinity.
Senegal:				
Dakar	June 11			Rodent; present.
On vessel:				
S. S. Mansourah	May 8	1		At Suakim, Egypt, from Suez via Port Sudan.

SMALLPOX.

Bolivia:				
La Paz	Jan. 31-Apr. 30	14	7	
British East Africa:				
Uganda	Dec. 1-31	4	2	
Canada:				
New Brunswick—				
Bonaventure and Gaspe Counties	May 1-30	2		
Northumberland County	May 15-21	2		

[1] From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received During Week Ended June 17, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Nova Scotia—				
Sydney	May 15–21	1		
Ontario—				
Ottawa	May 21–28	13		
Sarnia	do	1		
Saskatchewan—				
Regina	May 8–28	10		
Chile:				
Antofagasta Province—				
Antofagasta	Apr. 11–May 15	163	46	Present at interior nitrate plants.
Calama	do			Present.
Mejillones	do			Do.
Ollague	do			Do.
Tacna	Apr. 23			Do.
China:				
Amoy	Apr. 10–23	5		
Antung	Apr. 18–24	3		
Mukden	Apr. 25–30			Do.
Shanghai	do	1		
Tientsin	Apr. 17–23	3		
Colombia:				
Santa Marta	May 15–21			Do.
Cuba:				
Santiago	May 10–20	16		
Egypt:				
Cairo	May 5–11	1	1	
Germany	Mar. 13–Apr. 30	142		
Great Britain:				
Belfast	May 8–14	1		
Greece:				
Saloniki	Apr. 18–May 1	3	2	
India:				
Bombay	Apr. 10–16	68	35	
Calcutta	Apr. 24–30	2	2	
Karachi	Apr. 25–30	3		
Madras	Apr. 17–30	20	6	
Rangoon	Apr. 3–16	14	5	
Italy:				
Catania	May 2–8			In Province, 3 cases.
Trieste	May 8–14	1		In emigrant.
Japan:				
Kobe	May 3–9	2		
Nagasaki	Apr. 25–May 1	17	2	Epidemic; from Mar. 28 to Apr. 24, 1921: Cases, 25; deaths, 3.
Java:				
West Java—				
Bandoeng	Apr. 7–14	1		
Batavia	Mar. 31–Apr. 6	2	1	
Garoet	do	1		
Krawang	do	5		
Lebak	do	13	2	
Pandeglang	Mar. 31–Apr. 14	3	1	
Jugoslavia				Oct. 7, 1920–Jan. 1, 1921: Cases, 422. Jan. 2–29, 1921: Cases, 455.
Zagreb	Apr. 24–30	2	1	
Malta	Apr. 16–30	1		
Mesopotamia:				
Bagdad	Mar. 1–31	1		
Mexico:				
Guadalajara	Apr. 1–30	1		
Mexico City	Apr. 24–May 7	58		
Peru:				
Callao	Mar. 1–31	1		
Portugal:				
Lisbon	Apr. 17–May 7		3	
Oporto	May 2–16		4	
Spain:				
Malaga	Apr. 1–30		21	
Switzerland:				
Zurich	May 1–7	1		
Syria:				
Aleppo	May 1–14			Present.
Beirut	Apr. 20–30	1		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received During Week Ended June 17, 1921—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Bolivia:				
La Paz	Jan. 1-Mar. 31	214	206	
Brazil:				
Ceara	Mar. 6-Apr. 2		3	
Egypt:				
Alexandria	Apr. 3-May 5	9	3	
Cairo	May 5-18	7	2	
Greece:				
Saloniki	Apr. 18-24	46	14	Present in vicinity among refugees.
Japan:				
Nagasaki	Apr. 25-May 1	3	1	
Jugoslavia				Oct. 7, 1920-Jan. 1, 1921: Cases, 395.
Do				Jan. 2-29, 1921: Cases, 197.
Mexico:				
Mexico City	Apr. 24-May 7	31		
Morocco:				
Casa Blanca	June 10	59	3	
Rumania:				
Kisseneff (district)	Mar. 1-31	78		
Tunis:				
Tunis	May 7-13	1	1	
Turkey:				
Constantinople	Apr. 24-May 7	5	1	
Union of South Africa:				
Cape Province—				
East London	Apr. 17-23	2		

Reports Received from Jan. 1 to June 10, 1921.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Canton	Nov. 1-30	7	6	
Changsha	Nov. 29			Present.
Chungking	do			Do.
Chosen (Korea)				Aug. 1-Dec. 2, 1920: Cases, 24,017; deaths, 13,329.
India				Sept. 26-Oct. 9, 1920: Deaths, 2,672. Oct. 31-Dec. 11, 1920: Deaths, 7,184. Jan. 2-Feb. 19, 1921: Deaths, 8,465.
Bombay	Dec. 5-11	2	2	
Do	Jan. 16-Feb. 26	4	2	
Calcutta	Oct. 31-Dec. 25	321	283	
Do	Dec. 25-Apr. 3	1,283	1,080	
Madras	Dec. 12-18	77	44	
Do	Dec. 26-Apr. 2	313	115	
Rangoon	Nov. 28-Dec. 25	9	8	
Do	Dec. 26-Apr. 2	32	28	
Indo-China				July 1-31, 1920: Cases, 136; deaths, 98.
Saigon	Dec. 27-Feb. 27	7	4	Including surrounding country.
Japan:				
Taiwan Island (Formosa)	Nov. 11-Dec. 31	219	93	
Do	Jan. 1-20	2		
Java:				
West Java—				
Bandoeng	Oct. 29-Nov. 11	2	1	
Batavia	Nov. 25-Dec. 1	1		
Philippine Islands:				
Manila	Nov. 7-Dec. 25	9		
Do	Jan. 9-Apr. 16	22		
Provinces—				
Bulacan	Apr. 3-9	1	1	
Cagayan	Oct. 3-Nov. 20	11	9	
Mindoro	Jan. 9-15	4		
Occidental Negros	do	1		
Samar	Aug. 1-7	1	1	
Sorsogon	Jan. 2-8	1		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Poland				Oct. 1-31, 1920: Cases, 26; deaths, 13. Mar. 15, 1921: Cases present, 86 among prisoners; 8 in civil population; 2 among military.
Eastern frontier—				
Bialystok	Dec. 16			Present.
Galicia	Nov. 1-30	19	11	
Grodno	do			Do.
Olitza	do			Do.
Posen	do			Present in Russian prison camp, Mar. 1, 1921: Cases, 31.
Stralkowo	do			
Strelno	do	1	1	
Warsaw	Oct. 1-31	2		In district.
Do	Dec. 16	5		Nov. 1-30, 1920: Cases, 7; deaths, 2.
Russia:				
Caucasus				May 19, 1921: Reported in several localities.
Lithuania				Feb. 19, 1921: Cases reported, 35; mortality, 30 per cent.
Latvia—				
Riga	Jan. 22			Present.
Moscow—				
Kolomna	May 19			Do.
Rostoff on Don	do			Do.
Ukraine	do			Reported in several localities.
Siam:				
Bangkok	Oct. 9-Nov. 7	7	1	
Do	Dec. 26-Apr. 2	8	2	

PLAGUE.

Algeria:				
Algiers	Nov. 1-Dec. 31	3	1	
Do	Jan. 1-31	3	1	
Oran	Mar. 11-20	2	1	Dec. 20, 1920: 1 case.
Argentina:				
Rosario	Feb. 1-28		3	Jan. 1-31, 1921: 3 plague rodents found.
Azores:				
St. Michaels				Total, Oct. 1-Dec. 10, 1920: Cases, 149; deaths, 49. In vicinity of Ponta Delgada.
Ponta Delgada	Feb. 5-11	1		
Brazil:				
Bahia	Oct. 31-Dec. 18	6	4	
Do	Dec. 26-Mar. 12	14	4	
Ceara	Oct. 17-Feb. 5		16	
Pernambuco	Oct. 18-Dec. 5	1	3	
Porto Alegre	Nov. 14-Dec. 11		2	
Do	Dec. 23-Feb. 19		7	
Rio de Janeiro	Feb. 15-21	1		
British East Africa				Outbreak, Nov. 8, 1920: Cases reported, 1,067.
Kenya Colony—				
Kisumu	Oct. 31-Dec. 25			Present.
Do	Dec. 26-Mar. 26			Do.
Mombassa	Oct. 31-Dec. 25	2	2	
Do	Dec. 26-Jan. 15			Do.
Nairobi	Oct. 31-Dec. 25	16	11	
Do	Jan. 2-Feb. 5	19	15	Pneumonic, present.
Uganda	Oct. 21-Dec. 25	111	103	Entire protectorate.
Do	July 1-Nov. 5	259	63	Do.
Ceylon:				
Colombo	Nov. 7-Dec. 18	18	60	
Do	Jan. 16-Apr. 16	124	108	
Chile:				
Antofagasta	July 9-Dec. 29	15	2	Year 1920: Cases, 24.
Do	Dec. 27-Feb. 5	3		
China:				
Amoy	Apr. 3-9	1	1	
Chihli Province				Mar. 11, 1921: Present on Tientsin & Pukow R. R., 70 miles east of Tientsin. Pneumonic. Reappearance of plague reported Apr. 12, 1921. Mar. 14, 1921: Reported in 15 localities with 100 fatal cases. Total to Apr. 5, 1921: Deaths, 243.
Peking	Jan. 25		1	In Chinese quarter.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con

Reports Received from Jan. 1 to June 10, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
China—Continued.				
Hongkong	Nov. 7–Dec. 18	6	6	
Do	Jan. 9–Feb. 12	6	6	
Hwangsein	Feb. 12			A few cases reported.
Kwantung Province	Dec. 29			Reported present in Tapu district Mar. 7, 1921. Recurrence.
Manchuria Province—				
Changchun	Feb. 18	15		
Harbin	Feb. 2–Apr. 9	1,319		West of Harbin, Feb. 7, 1921, 400 fatal cases reported. Feb. 14, 1921, fatal cases, 1,200. To Mar. 14, 1921: 4,000 fatal cases. Pneumonic. Fatal cases reported daily, about 40. Apr. 13, improving; east of Harbin, more serious.
Mukden	Feb. 20–26			Prevalent.
Tsitsihar	Feb. 2–Mar. 10			Present.
Sang Yuan	Mar. 3		50	In northern Shantung Province.
Shanghai				Two plague rats found, Dec. 20 and Dec. 31, 1920.
Ecuador:				
Guayaquil	Nov. 16–Dec. 31	111	36	
Do	Jan. 1–Apr. 30	225	77	
Egypt				Jan. 1–Dec. 30, 1920: Cases, 462; deaths, 269. Jan. 1–Apr. 30, 1921: Cases, 97; deaths, 50.
Cities—				
Alexandria	Jan. 17–May 4	32	11	
Port Said	Oct. 22–28	1	1	
Do	Jan. 22	1	1	
Suez	Nov. 18–27	10	3	
Do	Jan. 5–May 3	21	18	Pneumonic, 6 cases; septicemic 1 case.
Provinces—				
Assiout	Nov. 24	3	2	
Do	May 3	1		
Gharbieh	Apr. 7–9	1		
Girgeh	May 7	3		
Minieh	Feb. 14–Mar. 3	5	1	
France:				
Marseille	June–Aug. 31	58	20	
Paris	June–Oct. 15	50	11	In suburbs, June–Nov. 2, 1920: Cases, 38; deaths, 19.
Do				Jan. 1–13, 1921: Cases, 3; deaths, 1. (Suspect.)
Great Britian:				
Dublin				1 case reported Dec. 15, 1920: date of occurrence Oct. 18, 1920.
Liverpool				Plague-infected rat found, period Nov. 28–Dec. 11, 1920.
Greece:				
Kavala	Oct. 29–Nov. 7	2		
India				Oct. 24–Dec. 25, 1920: Cases, 21,376; deaths, 14,874. Jan. 2–Apr. 2, 1921: Cases, 58,762; deaths, 47,193.
Bombay	Nov. 28–Dec. 25	6	6	
Do	Dec. 26–Apr. 9	316	232	
Calcutta	Nov. 14–20	46	44	
Do	Jan. 30–Apr. 23	23	19	
Karachi	Dec. 25–31	2	2	
Do	Mar. 27–Apr. 23	29	36	
Madras	Dec. 5–25	7	4	
Do	Jan. 9–29	3	1	
Madras Presidency	Nov. 14–Dec. 25	4,349	2,991	
Do	Dec. 26–Apr. 16	11,015	8,001	
Rangoon	Oct. 31–Dec. 25	30	24	
Do	Dec. 26–Apr. 2	311	29	
Indo-China				July 1–31, 1920: Cases, 98; deaths, 74.
Saigon	Dec. 27–Mar. 20	9	5	Including surrounding country. Mar. 21–Apr. 8, 1921: Two plague rats.
Java:				
West Jarva—				
Batavia	Nov. 21–Dec. 1	3	3	
Do	Jan. 13–26	1	3	Mar. 31–Apr. 6, 1921: One plague rat found.
Jugoslavia:				
Cattaro	Feb. 23	3		Among French troops.
Madagascar:				
Tamatave	Mar. 1–Apr. 9	80	49	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mesopotamia:				
Bagdad	Oct. 1-31	25	7	
Do	Feb. 1-28	1	2	
Mexico:				
Carbonera	Dec. 5-20	3	1	State of San Luis Potosi. Dec. 1920-Feb. 12, 1921: Cases, 24.
Do	Dec. 26-Jan. 8	3		
Cerritos	Dec. 5-20	7	8	State of San Luis Potosi.
Do	Dec. 26-Feb. 5	5		
Tampico	Mar. 23-May 30	42	2	Total plague cases, Jan. 1-May 30, 1921: 71.
Vera Cruz				Mar. 21-Apr. 10, 1921: Four plague-infected rodents found. Mar. 14, 1921: Rodent plague present.
Morocco:				
Tangiers	Apr. 25			Reported present.
Paraguay:				
Asuncion	Feb. 4	1	1	
Peru				Year 1920: Cases, 758; deaths, 392. Jan.-Feb. 28, 1921: Cases, 141; deaths, 71.
Departments—				
Arequipa	Jan. 1-Dec. 31	51	29	
Ancash	do	23	10	
Cajamarca	do	39	20	
Callao (Province)	do	61	30	
Lambayeque	do	53	19	
Libertad	do	174	72	
Lima	do	153	80	
Piura	do	204	132	
Callao-Lima				Jan. 1-31, 1921: Cases, 3; deaths 2.
Callao	Feb. 1-15	2		
Libertad	do	1		
Trujillo-Salaverry	Dec. 27-Apr. 2	35	8	
Lima	Feb. 1-15	14	4	
Piura	do	21	10	
Porto Rico:				
Carolina	Apr. 17-30	2	1	
San Juan	Feb. 18-25	7	2	Feb. 17-Mar. 3: Plague rats found, 19. Apr. 17-23, 1921: 2 cases clinically confirmed, 1 at Arecibo, 1 at Carolina; 5 plague rats found at three localities. In addition, 2 plague rats reported found, Apr. 14, 1921.
Portugal:				
Lisbon	Oct. 2-Nov. 17	93	27	
Do	Feb. 4	1		
Portuguese West Africa:				
Angola—				
Loanda				Mar. 18-Apr. 8, 1921: Rat plague present.
Guinea	May 24			Present.
Russia:				
Batum	Nov. 24-Dec. 3	38		Epidemic outbreak.
Siberia—				
Vladivostok	Apr. 22			Prevalent. A few deaths among Chinese.
Siam:				
Bangkok	Dec. 5-11	1	1	
Do	Mar. 13-Apr. 2	11	11	
Straits Settlements:				
Singapore	Oct. 31-Nov. 6	1	1	
Do	Feb. 13-Apr. 9	6	7	
Tunis:				
Ben Gardane				June-July, 1920: Cases, 6. November-December, 1920: Cases, 10, in surrounding territory.
Zarzis	Jan. 25	1		Jan. 15, 1921: 10 cases notified in vicinity. (Corrected report received Mar. 30, 1921.) Apr. 26, 1921: Outbreak in vicinity reported. Apr. 23: Cases, 23; deaths, 8.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Turkey:				
Constantinople	Nov. 21-27	1	2	
Union of South Africa:				
Orange Free State—				
Hoopstad district	Nov. 28-Dec. 18	3	1	1 European, 2 natives. On Vryheid Farm. (Public Health Reports, June 25, 1920, p. 1560.)
Do	Jan. 23-Mar. 26	3	1	European and natives. On farms.
Kroonstad district	Jan. 23-Apr. 9	14	6	On farms. Three cases, 1 death, European. Plague-infected wild rodents found.
Uruguay:				
Montevideo	Feb. 1-28	1	1	
On vessel:				
S. S. Kronprincessan Victoria.	Jan. 15	.....	.....	At Stockholm, Sweden. Rat plague found. Vessel left Buenos Aires, Argentina, Nov. 17, 1920. Stopped at Goteborg and Malmo, Sweden. Left Malmo Jan. 11, 1921. Rats found dead Jan. 13, 1921, at Stockholm.

SMALLPOX.

Algeria:				
Algiers	Jan. 1-31	5	.....	
Argentina:				
Rosario	Mar. 1-31	1	.....	
Austria	.....	.....	.....	Aug. 29-Dec. 25, 1920: Cases, 75.
Azores:				
Ponta Delgada	Dec. 18-24	7	.....	
Bolivia:				
La Paz	Oct. 1-Dec. 31	19	7	
Brazil:				
Bahia	Oct. 31-Dec. 25	6	.....	
Do	Jan. 8-Apr. 16	5	.....	
Pernambuco	Oct. 18-Dec. 19	102	2	
Do	Dec. 27-Mar. 27	53	1	
Rio de Janeiro	Oct. 24-Dec. 25	112	25	
Do	Dec. 26-Apr. 9	26	6	
Sao Paulo	Dec. 13-19	.....	1	
Do	Dec. 26-Jan. 2	.....	1	
British East Africa:				
Kenya Colony—				
Mombasa	Jan. 23-29	1	.....	
Uganda	.....	.....	.....	May 1-June 30, 1920: Cases, 272.
Bulgaria:				
Sofia	Nov. 7-13	2	.....	
Canada:				
Alberta—				
Calgary	Dec. 12-18	2	.....	
Do	Jan. 2-May 21	17	1	
British Columbia—				
Fernie	Feb. 6-12	2	.....	
Vancouver	Dec. 5-11	1	.....	
Do	Dec. 26-May 7	43	.....	
Victoria	Jan. 30-Mar. 5	5	.....	
Manitoba—				
Winnipeg	Jan. 16-Apr. 30	30	.....	
New Brunswick	.....	.....	.....	From lumber camp on Canadian Government R. R., Feb. 5, 1921, 5 cases.
Bonaventure and Gaspe Counties.	Feb. 1-Mar. 3	16	.....	
Campbellton	Jan. 9-15	.....	.....	Present.
Charlotte County	Apr. 24-May 7	7	.....	
Gloucester County	Jan. 23-29	1	.....	
Madawaska County	Jan. 30-Feb. 19	2	.....	
Northumberland County.	Mar. 6-12	1	.....	
Restigouche County	Dec. 12-18	1	.....	
Do	Feb. 6-19	2	.....	
St. Stephen	Feb. 27-Mar. 5	1	.....	
York County	do	6	.....	
Nova Scotia—				
Sydney	Feb. 13-Apr. 16	18	.....	
Yarmouth	Jan. 9-Mar. 26	9	.....	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Ontario				November-December, 1920: Cases, 992; deaths, 5. Jan. 1-31, 1921; Cases, 902; deaths, 3.
Hamilton	Dec. 19-31	9		
Do	Jan. 2-May 28	77		
Kingston	Dec. 26-Apr. 23	15		
London	Jan. 2-May 7	38		
Montreal	Jan. 2-Apr. 23	15		
Niagara Falls	Dec. 12-18	1		
North Bay	Dec. 12-25	4		
Do	Jan. 2-May 7	36		
Ottawa	Dec. 12-25	75	1	
Do	Dec. 26-May 22	837	3	
Peterborough	Dec. 26-Apr. 30	7	1	
Prescott	Apr. 3-9	1		
Sarnia	Feb. 20-Mar. 5	2		
Sault Ste. Marie	Jan. 9-Feb. 12	48		Mar. 27-Apr. 23, 1921: Present.
Toronto	Dec. 12-25	7		Four reported cases.
Do	Dec. 26-May 21	78		
Quebec—				
Quebec	Jan. 28-Feb. 19	2		
Saskatchewan—				
Moose Jaw	Dec. 19-25	1		
Do	Jan. 2-Apr. 30	16		
Regina	Dec. 12-25	11		
Do	Jan. 2-May 7	77		
Saskatoon	Dec. 16-22	20		
Do	Jan. 9-Mar. 26	28		
Ceylon:				
Colombo	Nov. 21-Dec. 25	18	7	
Do	Dec. 26-Apr. 16	6	2	
Chile:				
Antofagasta	Mar. 21-Apr. 11	7	2	
Iquique				Epidemic with high mortality, Mar. 16, 1921.
Coquimbo	Feb. 13-19	2		
China:				
Amoy	Nov. 7-Dec. 25		7	
Do	Dec. 26-Apr. 9		13	
Antung	Dec. 20-26	1		
Do	Jan. 10-Mar. 6	3	3	
Canton	Dec. 1-31			Present.
Do	Jan. 1-Mar. 31			Do.
Chungking	Nov. 7-Dec. 25			Do.
Do	Dec. 26-Apr. 16			Do.
Foochow	Nov. 7-Dec. 25			Do.
Do	Dec. 26-Apr. 16			Do.
Hangkow	Jan. 2-22	2	1	
Hongkong	Jan. 16-Mar. 26	43	32	
Manchuria Province—				
Dairen	Nov. 16-Dec. 20	12	3	
Do	Dec. 28-Apr. 24	505	63	
Mukden	Dec. 12-18			Prevalent.
Do	Jan. 16-Apr. 9			Present.
Nanking	Nov. 14-Dec. 18			Do.
Do	Dec. 26-Apr. 23			Do.
Shanghai	Feb. 7-Apr. 24	3	2	
Tientsin	Nov. 14-Dec. 4	2		Dec. 12-25, 1920: Cases, 160; in camp for famine refugees.
Do	Dec. 26-Apr. 9	14	1	In camp for famine refugees, Dec. 26, 1920-Feb. 5, 1921: Cases, 477.
Tsinanfu	Oct. 31-Nov. 12	20		Statistics of Shantung Christian
Tsingtau	Jan. 3-Mar. 27	6	2	Hospital.
Chosen (Korea):				
Chemulpo	Dec. 1-31	1		
Fusan	Nov. 1-30	1		
Do	Jan. 1-Mar. 31	7	2	
Gensan	Dec. 1-31	15	12	
Do	Jan. 1-Mar. 31	45	24	
Seoul	Mar. 1-31	1		
Colombia:				
Baranquilla	Jan. 16-Mar. 12			Present.
Santa Marta	Dec. 5-25			Do.
Do	Dec. 26-May 14			Do.
Cuba:				
Antilla	Dec. 7-27	10		For port of Preston. May 7-14:
Do	Jan. 2-May 21	100		1 case from Baracoa.
Camaguey Province				Reported seriously prevalent during January, 1921. Mar. 17, 1921: 386 cases reported.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Cuba—Continued.				
Cienfuegos	Mar. 13–Apr. 2	3		1 from Jatibonico, Cuba; 1 from Jamaica.
Habana	Dec. 31–Feb. 16	11		
Lugareno	Mar. 7–13	2		Vicinity of Nuevitas. Dec. 6–12, 1920; 1 case. Apr. 25–May 1, 1921: Present.
Matanzas	Jan. 2–29	6		
Nuevitas	Dec. 6–19	2		
Do	Jan. 3–May 8	82		And vicinity.
Oriente Province				Mar. 17, 1921: 394 cases reported.
Santiago	Nov. 20–Dec. 10	26		
Do	Feb. 1–May 10	373	1	"Alastrim" reported present. Estimated, Mar. 1–20, 1921: Cases, 1,000.
Czechoslovakia				July 11–Aug. 14, 1920: Cases, 141; deaths, 29.
Danzig	Dec. 5–18	2		Nov. 15–Dec. 25, 1920: Cases, 9; occurring in 4 localities.
Dominican Republic:				
Santo Domingo	Jan. 9–Feb. 19	13	1	
Ecuador:				
Guayaquil	Nov. 16–Dec. 31	33	2	
Do	Jan. 1–Apr. 30	88		
Egypt:				
Alexandria	Dec. 17–31	3	1	
Do	Jan. 1–Apr. 8	11	2	
Cairo	Oct. 1–Dec. 9	3		
Do	Jan. 8–Feb. 25	2	1	
Port Said	Nov. 19–Dec. 31	1	1	
Do	Jan. 8–14		1	
France:				
Paris	Nov. 1–30	2	1	
Do	Jan. 1–31	7	1	
Rouen	Nov. 21–Dec. 31	7	2	
Do	Feb. 13–Mar. 19	4	1	
St. Etienne	Dec. 3–15	2	1	
Do	Jan. 23–Feb. 12	3		
Germany				Aug. 29–Nov. 6, 1920: Cases, 40.
Great Britain:				
Glasgow	Dec. 25	11	2	
Do	Jan. 2–Mar. 19	23	8	
Liverpool	Jan. 30–Feb. 5	1		
London	Dec. 26–Jan. 1	1		
Greece:				
Patras	Apr. 4–10		1	
Saloniki	Nov. 15–Dec. 26	39	14	In surrounding country: Cases, 21; deaths, 2. Cases reported Mar. 14–Apr. 3, 1921, were among Russians. Feb. 11–20, 1921: Cases, 1; deaths, 2.
Do	Dec. 27–Apr. 16	55	30	
Haiti:				
Cape Haitien	Feb. 13–May 7	219		
Port au Prince	Sept. 22–Dec. 2	480	2	In 8 interior towns, 20 cases. In one locality, 18 cases. In country districts, vicinity of Port au Prince, cases numerous. From date of outbreak, Sept. 22, 1920; to Apr. 21, 1921: Cases, 3,166; deaths, 297.
Honduras:				
Ceiba	Feb. 13–Mar. 5	4		
India				
Bombay	Nov. 7–Dec. 25	11	3	Sept. 26–Oct. 9, 1920: Deaths, 250.
Do	Dec. 26–Apr. 9	479	188	Oct. 31–Dec. 11, 1920: Deaths, 3,902. Dec. 19–25, 1920: Deaths, 353. Dec. 26, 1920–Feb. 19, 1921: Deaths, 4,091.
Calcutta	Dec. 5–11	2	2	
Do	Jan. 2–Apr. 23	46	31	
Karachi	Jan. 16–Apr. 23	54	2	
Madras	Nov. 14–Dec. 18	7	5	
Do	Dec. 26–Apr. 16	120	25	
Rangoon	Nov. 21–Dec. 25	5	1	
Do	Jan. 2–Apr. 2	42	5	
Indo-China				July 1–21, 1920: Cases, 107; deaths, 24.
Saigon	Mar. 13–20	1		
Italy:				
Catania	Nov. 29–Dec. 5	1		In Province, Nov. 29–Dec. 26, 1920: Cases, 43. Jan. 3–10, 1921: Cases, 32. Jan. 17–May 1, 1921: Cases, 116.
Do	Feb. 14–Mar. 12	11		
Genoa	Feb. 7–13	3		Dec. 5, 1920–Jan. 2, 1921: Cases, 15.
Messina (city and Province)	Jan. 3–Apr. 27	67	14	
Palermo	Oct. 30–Dec. 27	410	124	
Do	Jan. 26–May 3	287	39	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Japan:				
Kobe	Mar. 16-Apr. 30	9	1	
Nagasaki	Mar. 27-Apr. 24	25	3	Apr. 28: Present.
Java:				
West Java				Nov. 12-Dec. 29, 1920: Cases, 72; deaths, 6. Jan. 6-Mar. 30, 1921: 82 cases, 40 deaths.
Bandoeng	Nov. 19-25	1	1	
Do	Feb. 3-Mar. 30	2	1	
Batavia	Nov. 12-Dec. 25	14	5	
Do	Jan. 27-Mar. 30	14	4	
Buitenzorg	Feb. 10-23	12	2	
Garoet	Jan. 27-Mar. 2	2		
Indramayo	Nov. 12-Dec. 29	1		
Krawang	do	1		
Do	Jan. 13-Mar. 30	69	9	
Lebak	do	33	12	
Pandeglang	Jan. 27-Mar. 30	24	7	
Jugoslavia	July 25-Aug. 28	128	42	Feb. 7-13, 1920: Cases, 122; deaths, 27.
Belgrade	Feb. 27-Mar. 5	1		
Zagreb	Jan. 9-Mar. 26	7	1	
Luxemburg	Dec. 15-Jan. 1	1		
Madagascar:				
Tananarive	Jan. 17-23		2	
Madeira:				
Funchal	Dec. 5-18		2	
Do	Dec. 26-Mar. 19		9	
Mesopotamia:				
Bagdad	Nov. 1-Dec. 31	2		
Do	Jan. 1-31	1	2	
Mexico:				
Chihuahua	Dec. 6-26	11	3	
Do	Dec. 27-May 15		17	
Ciudad Juarez	Mar. 21-27		1	
Guadalajara	Dec. 1-31	1		
Do	Jan. 1-Mar. 31	3		
Mexico City	Nov. 14-Dec. 25	17		Including municipalities in the Federal district.
Do	Jan. 2-Apr. 23	326		Do.
Monterey	Mar. 29-Apr. 4		4	
Salina Cruz	Jan. 1-Apr. 30	5	3	
Saltillo	Apr. 17-23		7	
San Luis Potosi	Feb. 6-Apr. 30		2	
Tecate	Jan. 17	3		
Torreon	Jan. 1-Feb. 28	6	3	
Newfoundland:				
Bonne Bay	Mar. 20-Apr. 1	1		
Grand Falls	Mar. 12-18	1		
Lewisport	Apr. 2-8			Present.
St. Johns	Jan. 22-May 13	5		
Norway:				
Stavanger	Jan. 23-29	3		
Panama:				
Colon	Jan. 5-May 10	125		
Poland				Sept.-Oct., 1920: Cases, 175; deaths, 37.
Warsaw	Sept. 1-30	3		
Portugal:				
Lisbon	Nov. 28-Dec. 18		5	
Do	Dec. 26-Apr. 16		24	
Portugese East Africa:				
Chai-Chai	Jan. 9-Feb. 12			Present. One death reported.
Chinde	Jan. 2-8			Present.
Gaza district	Dec. 18-23			Do.
Inhambane district	Dec. 26-Mar. 26			Do.
Lourenco Marques	Oct. 24-Dec. 11	10		Reported present in interior of Chai-Chai district.
Do	Mar. 20-Apr. 9	3	1	
Quelimane	Oct. 24-Dec. 11	3		
Rumania:				
Bessarabia Province	Jan. 1-27	202		
Bucharest	Nov. 1-30	1		
Cernowitz	Jan. 1-31	5	1	
Galatz	Dec. 1-31	1		
Jassy	Nov. 1-Dec. 31	7	1	
Kisseneff	Jan. 1-Mar. 18	18		District.
Russia:				
Esthonia Province				Dec. 1-31, 1920; Cases, 17. Jan. 1-Feb. 28, 1921: Cases, 50, not including cases in military hospitals.
Reval	Oct. 1-Nov. 30	28		
Latvia—				
Riga	Nov. 1-Dec. 31	17		
Do	Feb. 1-28	21		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Russia—Continued.				
Siberia—				
Vladivostok	Oct. 1-Dec. 31	3	1	
Do	Feb. 1-28	1		
Senegal:				
Dakar	Mar. 1-Apr. 30			Present.
Siam:				
Bangkok	Feb. 13-Apr. 2	2		
Sierra Leone:				
Freetown	May 2			Do.
Spain:				
Barcelona	Nov. 18-Dec. 29		13	
Do	Jan. 13-Apr. 6		32	
Corunna	Dec. 12-18		1	
Madrid	Nov. 1-30		1	Year ended Dec. 31, 1920: Deaths, 9.
Do	Feb. 6-13		1	
Malaga	Oct. 1-Dec. 31		77	
Do	Jan. 1-Mar. 31		48	
Tarragona	Jan. 30-Feb. 19		2	
Valencia	Dec. 5-25	3		
Do	Dec. 26-May 1	28	4	
Switzerland:				
Basel	Mar. 30-Apr. 2	5		
Syria:				
Aleppo	Nov. 14-Dec. 4			Dec. 12-25, 1920: Present.
Do	Jan. 16-Feb. 5			Present.
Tunis:				
Tunis	Nov. 30-Dec. 28	10	18	
Do	Jan. 8-May 6	64	49	
Turkey:				
Constantinople	Nov. 21-Dec. 11	4		
Do	Jan. 2-Apr. 23	33	2	
Union of South Africa	Feb. 27-Apr. 12			Outbreaks, Cape Province, Natal, Orange Free State, and Transvaal.
Cape Province	Jan. 23-Apr. 9			Outbreaks.
Natal				Feb. 13-19, 1921: Present in rural areas.
Durban district	Jan. 23-Feb. 5			Outbreak.
Orange Free State	Jan. 23-Apr. 9			Outbreaks. Feb. 13-19, 1921: Present in rural areas.
Transvaal				Jan. 23-Apr. 9, 1921: Outbreaks.
Johannesburg	Oct. 1-3	1		
Do	Jan. 23-Apr. 9	2		From Portuguese East Africa.
Uruguay:				
Montevideo	Dec. 1-31	6	2	
Do	Jan. 1-Feb. 28	7	1	
Venezuela:				
Puerto Cabello	Apr. 3-9		1	
On vessels:				
S. S. Alfonso XIII	Dec. 27	1		At Habana, Cuba, from ports in northern Spain.
S. S. Cadiz	Jan. 5	1		At Habana, Cuba, from Mediterranean ports.
U. S. S. Mississippi	Feb. 18-20	22		In Canal Zone.
S. S. Ohican	Jan. 4	1		At San Pedro, Calif., from New York, via Balboa, Canal Zone.
S. S. Ventura	Jan. 18	1		At Sydney, Australia, from San Francisco, Calif., via Honolulu and Pago Pago, Samoa.
S. S. ————	Mar. 27-Apr. 2	2	1	At quarantine, St. John, New Brunswick. From Europe.

TYPHUS FEVER.

Algeria:				
Algiers	Jan. 1-Apr. 30	49	10	
Oran	Mar. 11-Apr. 30	172	42	
Bolivia:				
La Paz	Dec. 1-31	13	9	
Brazil:				
Bahia	Mar. 27-Apr. 9	4	4	
Ceara	Oct. 17-Dec. 26		3	
Do	Jan. 2-29		5	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Bulgaria:				
Sofia	Jan. 2-Apr. 16	13	1	
Chile:				
Arica	Feb. 16-Mar. 25	12	1	Among laborers arriving from the arid region by way of Iquique, Chile, Feb. 16, 1921.
Concepcion	Nov. 1-Dec. 27	.....	23	
Do	Dec. 28-Mar. 28	.....	16	Present in vicinity. Year 1920, in public hospital, 89 cases, 13 deaths.
Coquimbo	Dec. 1-7	.....	1	
Valparaiso	Oct. 25-Nov. 27	.....	13	
Do	Jan. 30-Mar. 19	.....	14	
China:				
Manchuria Province—				
Harbin	Nov. 22-28	1	.....	On Chinese Eastern Railway.
Do	Jan. 3-9	1	.....	
Manchuria Station	Nov. 22-28	2	.....	Do.
Do	Jan. 10-16	1	.....	
Chosen (Korea):				
Chemulpo	Feb. 1-28	1	1	
Seoul	Dec. 1-31	1	.....	
Do	Jan. 1-Mar. 31	2	.....	
Colombia:				
Barranquilla	Mar. 13-19	.....	1	
Czechoslovakia		.....	.....	July 11-Aug. 28, 1920: Cases, 138; deaths, 18. Reported present, Feb. 19, 1921.
Prague	Feb. 1-21	2	.....	
Danzig	Dec. 20	1	.....	In emigrant from Brest-Litovsk, with 2 weeks' stay at Warsaw.
Do	Jan. 16-Feb. 5	3	1	
Egypt:				
Alexandria	Nov. 19-Dec. 31	13	6	
Do	Jan. 1-Apr. 15	32	15	
Cairo	Oct. 1-Dec. 28	44	32	
Do	Jan. 1-Mar. 4	38	25	
Port Said	Feb. 19-25	1	.....	
Germany		.....	.....	Sept. 12-Dec. 25, 1920: Cases, 259; including 11 in a camp. Dec. 26, 1920-Jan. 8, 1921: Cases, 7.
Great Britain:				
Belfast	Dec. 5-25	13	.....	
Do	Jan. 9-Mar. 19	8	1	
Dublin	Nov. 28-Dec. 18	4	3	
Do	Jan. 9-Apr. 9	13	2	
Greece:				
Drama	Nov. 22-28	1	.....	
Do	Feb. 28-Mar. 6	1	.....	
Kavalla	do	2	.....	
Patras	Nov. 29-Dec. 5	.....	1	
Saloniki	Oct. 25-Dec. 26	34	9	
Do	Jan. 10-Apr. 17	1,186	76	In civil population, Jan. 31-Apr. 17, 1921: Cases, 24; deaths, 22. Remainder among refugees from the Caucasus and Russia. At localities in the district, Feb. 28-Mar. 13, 1921: Cases, 27; deaths, 2.
Serres	Nov. 8-14	1	.....	
Guatemala		.....	.....	Feb. 1-Mar. 12, 1921: Present in highland departments. In vicinity of Guatemala City, Mar. 1-31, 1921: Several cases.
Guatemala City	Mar. 1-31	.....	1	
Hungary		.....	.....	Aug. 3-Dec. 5, 1920: Cases, 38.
Budapest	Nov. 8-Dec. 5	2	.....	
Indo-China:				
Saigon	Mar. 27-Apr. 8	1	1	
Italy:				
Naples	Feb. 23	2	.....	
Trieste	Feb. 14	30	.....	Among emigrants intending to come to United States.
Japan:				
Nagasaki	Nov. 15-Dec. 26	10	1	
Do	Dec. 27-Apr. 17	33	7	
Jugoslavia	July 25-Aug. 28	27	5	Feb. 7-13, 1920: Cases, 84; deaths, 2, Dec. 12-25, 1920: Cases, 112.
Belgrade	Jan. 9-Mar. 26	5	.....	114 remaining cases.
Medjumurju Province	Jan. 2-8	73	.....	51 remaining cases.
Do	Feb. 13-19	42	.....	
Zagreb	Dec. 12-25	27	.....	
Do	Dec. 26-Feb. 21	41	6	City and county.
Malta	Dec. 1-31	1	.....	
Mesopotamia:				
Bagdad	Nov. 1-30	1	1	
Do	Feb. 1-28	1	1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Guadalajara	Dec. 1-31	11		
Do	Jan. 1-Mar. 31	11	5	
Mexico City	Nov. 14-Dec. 25	67		Including municipalities in the Federal district.
Do	Dec. 26-Apr. 23	247		Do.
San Luis Potosi	Dec. 5-31			Present.
Do	Jan. 16-May 14			Present. Five deaths reported.
Netherlands:				
Rotterdam	Jan. 23-29	1		
Poland				Sept.-Oct., 1920: Cases, 3,845; deaths, 371. Nov. 1-30, 1920; Cases, 3,059; deaths, 350. Dec. 1-31, 1920: Cases, 4,644; deaths, 550. Jan. 1-31, 1921: Cases, 5,308; deaths, 597. Year 1920: Cases, 161,846.
District—				
Galicia	Nov. 1-30	1,192	286	
Kielce	....do.	279	15	
Lodz	....do.	83	6	
Lublin	....do.	403	20	
Posen	....do.	17		
Silesia	....do.	6		
Warsaw	....do.	191	15	
Warsaw city	Nov. 1-Dec. 16	90	8	
District—				
Bialystok	Jan. 1-31	321	33	
Galicia	....do.	3,427	457	
Kielce	....do.	426	42	
Lodz	....do.	200	14	
Lublin	....do.	383	18	
Posen	....do.	13		
Silesia	....do.	1		
Warsaw	....do.	340	16	
Warsaw city	....do.	197	17	
Portugal:				
Oporto	Nov. 28-Dec. 4	1		
Do	Dec. 26-Apr. 18	6	3	
Rumania:				
Cities—				
Bucharest	Nov. 1-Dec. 31	9	1	
Do	Jan. 1-31	7		
Cahul district	Feb. 1-28	13		
Constanza	Dec. 1-31	9		
Provinces—				
Bessarabia				Nov. 30, 1920: Cases, 101.
Do	Jan. 1-Feb. 27	426		
Bukowina				Jan. 29, 1921: Cases, 103.
Transylvania	Dec. 1-31	81		Including Banat.
Do	Jan. 1-Feb. 14	41		In the old Kindgom of Rumania on Dec. 31, 1920, 119 cases reported present.
Russia:				
Province—				
Esthonia				Sept. 1-Dec. 31, 1920: Cases, 455. Jan. 1-Mar. 31, 1921: Cases, 309.
Latvia—				
Riga	Nov. 1-Dec. 31	185		
Do	Jan. 1-Mar. 31	779		
Lithuania				Feb. 19, 1921: Cases, 175; mortality, 5 to 6 per cent.
Ruthenia				Feb. 19, 1921: Occurrence of about 5 fatal cases daily. Mar. 5, 1921, 200 fatal cases previously unreported.
Siberia—				
Vladivostok	Jan. 1-Feb. 28		9	Dec. 1-31, 1920: Cases, 11; deaths, 6.
Ukraine				Feb. 19, 1921: Occurrence of about 5 fatal cases daily.
Syria:				
Beirut	Apr. 10-20	2		
Tunis:				
Tunis	Apr. 17-23	2	1	
Turkey:				
Constantinople	Nov. 21-Dec. 25	25	1	
Do	Jan. 2-Apr. 23	56	2	
Union of South Africa				September - November, 1920: Cases, 5,144; deaths, 915. Of these, 30 cases, 3 deaths were among whites; remainder among natives and colored.
Do	Feb. 27-Mar. 12			Outbreaks reported in Cape Province and Transvaal.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, YELLOW FEVER—Con.

Reports Received from Jan. 1 to June 10, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Union of South Africa—Con.				
Cape Province				Feb. 13–19, 1921: Outbreaks reported. Mar. 12–Apr. 9: Outbreaks.
Cape Town	Dec. 20–26	16	5	
East London	Jan. 29–Feb. 12	5	3	
Port Elizabeth	Jan. 30–Feb. 5	1		
Natal	Feb. 13–19			Outbreak.
Orange Free State	Jan. 23–Feb. 5			Outbreaks.
Transvaal				Mar. 27–Apr. 9, 1921: Outbreaks.
Johannesburg	Jan. 23–Feb. 5	1		District.
On vessels:				
S. S. Presidente Wilson	Feb. 1–6	15		At New York. From Trieste, Italy, Jan. 15; Naples, Jan. 18; and Algiers, Jan. 22, 1921.
S. S. San Giusto	Feb. 10–Mar. 3	22		At New York. From Trieste, Jan. 22, and Naples, Jan. 26, 1921.

YELLOW FEVER.

Brazil:				
Bahia	Apr. 10–16	1	1	
Pernambuco	Nov. 14–21	1	1	
Mexico:				
Orizaba	Dec. 5–18	2	1	
Papantla	do	8	2	
Do	Jan. 9–15		1	
Tampico	Dec. 12–18	1	1	
Tuxpam	Dec. 5–18	9	4	
Do	Dec. 26–Jan. 1	5	1	May 18, 1921: One case, stated to have come from point 40 miles distant.
Vera Cruz	Dec. 5–26	8	3	
Do	Dec. 26–Mar. 20	6	1	
Zamora	Dec. 12–18	1	1	Also called Gutierrez, State of Vera Cruz.
Peru:				
Department—				
Lambayeque				Outbreak reported Jan. 22, 1921.
Chiclayo	Feb. 1–28	18	6	
Eten	do	7	2	
Ferrenafe	Jan. 1–31	18	17	
Do	Feb. 1–28	44	19	
Lambayeque	Jan. 1–30	2	1	
Do	Feb. 1–28	4		
Monsefu	Feb. 16–28	2		
Libertad—				
Trujillo	Apr. 28			Present.
Piura				June–December, 1919: Cases, 173; deaths, 41. January–August, 1920: Cases, 455, deaths, 111. First period occurrence in 6 localities; second period, in 12 localities.
On vessel:				
S. S. Savoia	Jan. 11–15	4		At Habana, Cuba, from Vera Cruz, Mexico. Vessel arrived Habana, Jan. 10, 1921, with three cases sickness on board. Two cases confirmed. Two cases developed later on board; confirmed Jan. 15. Savoia left Vera Cruz Jan. 6, 1921.